

**Iowa Department of Natural Resources  
Title V Operating Permit**

**Name of Permitted Facility:** Tall Corn Ethanol, LLC  
(TCE, LLC)  
**Facility Location:** 1015 Grant Avenue  
Coon Rapids. IA 50058

**Air Quality Operating Permit Number: 07-TV-001**  
**Expiration Date: January 9, 2012**

**EIQ Number: 92-6922**  
**Facility File Number: 14-03-006**

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**Responsible Official**

**Name:** Owen Shunkwiler  
**Title:** General Manager  
**Mailing Address:** 1015 Grant Avenue  
Coon Rapids, Iowa 50058  
**Phone :** (712) 684-5102

**Permit Contact Person for the Facility**

**Name:** Kevin Howes  
**Title:** Technical Manager  
**Mailing Address:** 1015 Grant Avenue  
Coon Rapids, Iowa 50058  
**Phone :** (712) 684-5102

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This permit is issued in accordance with 567 Iowa Administrative Code Chapter 22, and is issued subject to the terms and conditions contained in this permit.

**For the Director of the Department of Natural Resources**

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**Douglas A Campbell,** Supervisor of Air Operating Permits Section

Date

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## Abbreviations

acfm.....	actual cubic feet per minute
CFR.....	Code of Federal Regulation
CE .....	control equipment
CEM.....	continuous emission monitor
°F .....	degrees Fahrenheit
EIQ.....	emissions inventory questionnaire
EP .....	emission point
EU .....	emission unit
gr./dscf .....	grains per dry standard cubic foot
gr./100 cf.....	grains per one hundred cubic feet
IAC.....	Iowa Administrative Code
IDNR.....	Iowa Department of Natural Resources
MVAC.....	motor vehicle air conditioner
NAICS.....	North American Industry Classification System
NSPS .....	new source performance standard
ppmv .....	parts per million by volume
lb./hr .....	pounds per hour
lb./MMBtu .....	pounds per million British thermal units
SCC .....	Source Classification Codes
scfm.....	standard cubic feet per minute
SIC.....	Standard Industrial Classification
TPY .....	tons per year
USEPA.....	United States Environmental Protection Agency

### Pollutants

PM.....	particulate matter
PM <sub>10</sub> .....	particulate matter ten microns or less in diameter
SO <sub>2</sub> .....	sulfur dioxide
NO <sub>x</sub> .....	nitrogen oxides
VOC.....	volatile organic compound
CO .....	carbon monoxide
HAP.....	hazardous air pollutant

# I. Facility Description and Equipment List

Facility Name: Tall Corn Ethanol, LLC

Permit Number: 07-TV-001

Facility Description: Industrial Organic Chemicals (SIC 2869)

## Equipment List

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
SV1	EU1	Corn Receiving Pits	01-A-434
	EU2	Elevator & Conveyors	
	EU3	3 Grain Bins	
SV2	EU4	Corn Scalper, Elevator & Surge Bin	01-A-435
SV4	EU4.1	Beer Well	01-A-437 S5
	EU4.2	Fermenters	
	EU4.3	Fermenters	
	EU4.4	Fermenters	
	EU4.5	Fermenters	
	EU4.6	Fermenters	
		Thermal Oxidizer	
SV5	EU7	Distillation	01-A-438 S4
SV6	EU8a	Rotary Distiller's Grain Dryer # 1 Process	01-A-439 S6
	EU8b	Rotary Distiller's Grain Dryer # 1 Combustion	
	EU9a	Rotary Distiller's Grain Dryer # 2 Process	
	EU9b	Rotary Distiller's Grain Dryer # 2 Combustion	
	EU15	Centrifuges # 1	
	EU16	Centrifuges # 2	
	EU17	Centrifuges # 3	
	EU18	Centrifuges # 4	
	EU30	Centrifuges # 5	
SV 6A		Dryers 1&2 Purge/Bypass Stack	02-A-505 S1
SV7	EU10	Dried Distiller's Grain Cooling Cyclone	01-A-440 S4
SV8	EU11	Dried Distiller's Grain Storage Silo	01-A-441
SV9	EU12	Boiler # 1	01-A-442 S3
SV10	EU13	Boiler # 2	01-A-443 S3
SV11	EU14	Boiler # 3	01-A-444 S3
SV 22	EU19	Diesel Generator	02-A-510-S2
SV Flare1	EU20	Ethanol Truck Load out	02-A-788-S3
SV23	EU21	Corn Cleaning Section	04-A-577-S1
SV24	EU22	Debranning Section	04-A-578-S1
SV25	EU23	General Exhaust System	05-A-579 S1
SV26	EU24a	Corn Germ Dryer Process	05-A-580 S1
	EU24b	Corn Germ Dryer Combustion	

<b>Emission Point Number</b>	<b>Emission Unit Number</b>	<b>Emission Unit Description</b>	<b>IDNR Construction Permit Number</b>
SV27	EU25	Germ Dryer & Receiver	05-A-581
SV28	EU26	Fiber Receiver	04-A-582
SV29	EU27	Hammermill # 1	04-A-583 S1
SV30	EU28	Hammermill # 2	04-A-584
SV31	EU29	Pneumatic Flour Conveyor/Receiver	04-A-979
SV32	EU31	Air Heater (in Corn Separation Building)	04-A-1006
WFB	EU WFB	Wet Fiber Building	04-A-980
CT	EU CT	Cooling Tower	
FUGITIVE 1	EU Fugitive 1	Corn Receiving- Truck & Railcar	
FUGITIVE 1 B	EU Fugitive 1 B	Haul Roads	
FUGITIVE 2	EU Fugitive 2	Equipment Leaks	
FUGITIVE 3	EU Fugitive 3	Ethanol Rail Loading	
SV12	TK-001	190 Proof Ethanol Tank	01-A-445
SV13	TK-002	Unleaded Gasoline/ Denaturant Tank	01-A-446 S1
SV14	TK-003	Denatured Ethanol Tank	01-A-447 S1
SV15	TK-004	Denatured Ethanol Tank	01-A-448 S1
SV17	TK-006	200 Proof Ethanol Tank	01-A-449

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### Insignificant Activities Equipment List

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Insignificant Emission Unit Number	Insignificant Emission Unit Description
TK-005	Corrosion Inhibitor Storage Tank Horizontal, 1000 gallons
TK-007	Syrup Storage Tank, 61,000 gallons
TK-7	Thin Stillage Storage Tank, 450,000 gallons
NA	Diesel Storage Tank Horizontal. 500 gallons
NA	Sulfuric Acid Storage Tank (93%)
FUGITIVE 4	DDG & Germ Product Loading
	Maintenance Parts Washer
	Centrifuge Bypass Vent
	Boiler Room Sump

## II. Plant-Wide Conditions

Facility Name: Tall Corn Ethanol, LLC

Permit Number: 07-TV-001

Permit conditions are established in accord with 567 Iowa Administrative Code rule 22.108

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### Permit Duration

The term of this permit is: 5 Years

Commencing on: January 10, 2007

Ending on: January 9, 2012

Amendments, modifications and reopenings of the permit shall be obtained in accordance with 567 Iowa Administrative Code rules 22.110 - 22.114. Permits may be suspended, terminated, or revoked as specified in 567 Iowa Administrative Code Rules 22.115.

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### Emission Limits

*Unless specified otherwise in the Source Specific Conditions, the following limitations and supporting regulations apply to all emission points at this plant:*

Opacity (visible emissions): 40% opacity

Authority for Requirement: 567 IAC 23.3(2)"d"

Sulfur Dioxide (SO<sub>2</sub>): 500 parts per million by volume

Authority for Requirement: 567 IAC 23.3(3)"e"

Particulate Matter (state enforceable only)<sup>1</sup>:

No person shall cause or allow the emission of particulate matter from any source in excess of the emission standards specified in this chapter, except as provided in 567 – Chapter 24. For sources constructed, modified or reconstructed after July 21, 1999, the emission of particulate matter from any process shall not exceed an emission standard of 0.1 grain per dry standard cubic foot of exhaust gas, except as provided in 567 – 21.2(455B), 23.1(455B), 23.4(455B) and 567 – Chapter 24.

For sources constructed, modified or reconstructed prior to July 21, 1999, the emission of particulate matter from any process shall not exceed the amount determined from Table I, or amount specified in a permit if based on an emission standard of 0.1 grain per standard cubic foot of exhaust gas or established from standards provided in 23.1(455B) and 23.4(455B).

Authority for Requirement: 567 IAC 23.3(2)"a" (as revised 7/21/1999)

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<sup>1</sup> Pending approval into Iowa's State Implementation Plan (SIP), paragraph 567 IAC 23.3(2)"a" (as revised 7/21/1999) is considered *state enforceable only*.



Particulate Matter<sup>2</sup>:

The emission of particulate matter from any process shall not exceed the amount determined from Table I, except as provided in 567 — 21.2(455B), 23.1(455B), 23.4(455B) and 567 — Chapter 24. If the director determines that a process complying with the emission rates specified in Table I is causing or will cause air pollution in a specific area of the state, an emission standard of 0.1 grain per standard cubic foot of exhaust gas may be imposed.

Authority for Requirement: 567 IAC 23.3(2)"a" (prior to 7/21/1999)

Fugitive Dust: Attainment and Unclassified Areas - No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered repaired or demolished, with the exception of farming operations or dust generated by ordinary travel on unpaved public roads, without taking reasonable precautions to prevent particulate matter in quantities sufficient to create a nuisance, as defined in Iowa Code section 657.1, from becoming airborne. All persons, with the above exceptions, shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate. The highway authority shall be responsible for taking corrective action in those cases where said authority has received complaints of or has actual knowledge of dust conditions which require abatement pursuant to this subrule. Reasonable precautions may include, but not limited to, the following procedures.

1. Use, where practical, of water or chemicals for control of dusts in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
2. Application of suitable materials, such as but not limited to asphalt, oil, water or chemicals on unpaved roads, material stockpiles, race tracks and other surfaces which can give rise to airborne dusts.
3. Installation and use of containment or control equipment, to enclose or otherwise limit the emissions resulting from the handling and transfer of dusty materials, such as but not limited to grain, fertilizers or limestone.
4. Covering at all times when in motion, open-bodied vehicles transporting materials likely to give rise to airborne dusts.
5. Prompt removal of earth or other material from paved streets or to which earth or other material has been transported by trucking or earth-moving equipment, erosion by water or other means.

Authority for Requirement: 567 IAC 23.3(2)"c"

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<sup>2</sup> Paragraph 567 IAC 23.3(2)"a" (prior to 7/21/1999) is the general particulate matter emission standard currently in the Iowa SIP.

**Compliance Plan**

*The owner/operator shall comply with the applicable requirements listed below. The compliance status is based on information provided by the applicant.*

Unless otherwise noted in Section III of this permit, Tall Corn Ethanol, LLC is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which become effective during the permit term, Tall Corn Ethanol, LLC shall comply with such requirements in a timely manner.

Authority for Requirement: 567 IAC 22.108(15)

**40 CFR 60 Subpart A - General Provisions**

Except as provided in Subparts B and C, the provisions of this part apply to the owner or operator of any stationary source which contains an affected facility. This facility is an affected source and these General Provisions apply to the facility.

See Appendix for the complete text of the Standard.

Authority for Requirements: 40 CFR 60 Subpart A  
567 IAC 23.1(2)

**40 CFR 60 Subpart VV Requirements**

This facility is subject to the Standards of Performance for Equipment leaks of VOC in the Synthetic Organic Chemicals Manufacturing industry. The affected units are EP SV 4, SV5, SV6, SV12, SV14, SV15 and SV 17. See Appendix for the complete text of the Standard.

Applicable requirements are incorporated in the Emission Point Specific conditions.

Authority for Requirements: 40 CFR 60 Subpart VV  
567 IAC 23.1(2) "nn"

**40 CFR 60 Subpart Dc Requirements**

This facility is subject to the Standards of Performance for Small Industrial- Commercial-Institutional Steam Generating Units. The affected units are EP SV 9, 10 and 11.

Applicable requirements are incorporated in the Emission Point Specific conditions. See Appendix for the complete text of the Standard.

Authority for Requirements: 40 CFR 60 Subpart Dc  
567 IAC 23.1 (2) "III"

**40 CFR 60 Subpart Kb Requirements**

This facility is subject to the Standards of Performance for Volatile Organic Liquid storage vessels (including petroleum liquids). This is applicable for storage tanks constructed after July 1984. The affected units are Storage Tanks EP SV 12, 13, 14, 15 and 17. See Appendix for the complete text of the Standard.

Applicable requirements are incorporated in the Emission Point Specific conditions.

Authority for Requirements: 40 CFR 60 Subpart Kb  
567 IAC 23.1(2) "ddd"

### III. Emission Point-Specific Conditions

Facility Name: Tall Corn Ethanol, LLC

Permit Number: **07-TV-001**

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#### **Emission Point ID Number: SV1**

##### Associated Equipment

Associated Emission Unit ID Numbers: EU1, EU2, EU3 (See table below)

Emissions Control Equipment ID Number: CS1

Emissions Control Equipment Description: Pulse Jet Bughouse

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Emission Unit vented through this Emission Point: EU1, EU2, and EU3

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity
SV1	EU1	Corn Receiving Pits	Corn	840 tons/hr
	EU2	Elevator & Conveyors	Corn	
	EU3	3 Grain Bins	Corn	

#### **Applicable Requirements**

##### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 01-A-434

567 IAC 23.3 (2) "d"

<sup>(1)</sup> An exceedance of the indicator opacity of 'no visible emissions' will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>

Emission Limit(s): 1.1 lb/hr

Authority for Requirement; Iowa DNR Construction Permit 01-A-434

Pollutant: Particulate Matter

Emission Limit(s): 1.1 lb/hr, 0.1gr/dscf

Authority for Requirement; Iowa DNR Construction Permit 01-A-434

567 IAC 23.3 (2) "a"

**Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

**Operating Limits:**

1. The control equipment shall be inspected and maintained according to manufacturer's specification

**Reporting & Record keeping:**

1. All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.
2. The owner and operator shall keep records of control equipment inspections and repairs.

Authority for Requirement: Iowa DNR Construction Permit 01-A-434

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 58

Stack Opening, (inches, dia.): 20x24

Exhaust Flow Rate (scfm): 23,450

Exhaust Temperature (°F): Ambient

Discharge Style: Vertical Obstructed or Horizontal

Authority for Requirement: Iowa DNR Construction Permit 01-A-434

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☒ No ☐

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

*Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.*

*Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.*

*Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.*

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: SV2**

### Associated Equipment

Associated Emission Unit ID Numbers: EU4  
Emissions Control Equipment ID Number: CS2  
Emissions Control Equipment Description: Pulse Jet Baghouse

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Emission Unit vented through this Emission Point: EU4  
Emission Unit Description: Corn Scalper, Elevator & Surge Bin  
Raw Material/Fuel: Corn  
Rated Capacity: 140 Tons Corn/hr

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 01-A-435  
567 IAC 23.3 (2) "d"

<sup>(1)</sup> An exceedance of the indicator opacity of 'no visible emissions' will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>

Emission Limit(s): 0.15 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 01-A-435

Pollutant: Particulate Matter

Emission Limit(s): 0.15 lb/hr, 0.1 gr/dscf

Authority for Requirement; Iowa DNR Construction Permit 01-A-435  
567 IAC 23.3 (2) "a"

### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

#### **Operating Limits:**

1. The control equipment shall be inspected and maintained according to manufacturer's specification.

#### **Reporting & Record keeping:**

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The owner and operator shall keep records of control equipment inspections and repairs.

Authority for Requirement: Iowa DNR Construction Permit 01-A-435

### **Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 68

Stack Opening, (inches, dia.): 8x10

Exhaust Flow Rate (scfm): 2500

Exhaust Temperature (°F): Ambient

Discharge Style: Vertical Obstructed or Horizontal

Authority for Requirement: Iowa DNR Construction Permit 01-A-435

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

### **Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

## Emission Point ID Number: SV4

### Associated Equipment

Associated Emission Unit ID Numbers: EU4.1, EU 4.2, EU 4.3, EU4.4, EU 4.5, EU 4.6, EU 4.7 (See Table Below)

Emissions Control Equipment ID Number: CS4 & CS12

Emissions Control Equipment Description: Packed Bed Wet Scrubber & Recuperative Thermal Oxidizer (RTO)

Continuous Emissions Monitors ID Numbers: TT 851-1

Emission Unit vented through this Emission Point:

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity
SV4	EU 4.1	Beer Well	Corn Mash	207 tons mash/hr
	EU 4.2	Fermenter	Corn Mash	207 tons mash/hr
	EU 4.3	Fermenter	Corn Mash	207 tons mash/hr
	EU 4.4	Fermenter	Corn Mash	207 tons mash/hr
	EU 4.5	Fermenter	Corn Mash	207 tons mash/hr
	EU 4.6	Fermenter	Corn Mash	207 tons mash/hr
		Thermal Oxidizer	Natural Gas	10 MMBtu/hr

## Applicable Requirements

### Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 01-A-437 S5  
567 IAC 23.3(2) "d"

- (1) An exceedance of the indicator opacity of 'no visible emissions' will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>

Emission Limit(s): 0.10 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 01-A-437 S5



Pollutant: Particulate Matter  
Emission Limit(s): 0.10 lb/hr, 0.1 gr/dscf  
Authority for Requirement: Iowa DNR Construction Permit 01-A-437 S5  
567 IAC 23.3 (2) "a"

Pollutant: Nitrogen Oxides, NO<sub>x</sub>  
Emission Limit(s): 1.2 lb/hr  
Authority for Requirement: Iowa DNR Construction Permit 01-A-437 S5

Pollutant: Volatile Organic Compounds, VOC  
Emission Limit(s): 1.0 lb/hr  
Authority for Requirement: Iowa DNR Construction Permit 01-A-437 S5

Pollutant: Carbon Monoxide, CO  
Emission Limit(s): 0.82 lb/hr  
Authority for Requirement: Iowa DNR Construction Permit 01-A-437 S5

Pollutant: Acetaldehyde, HAP  
Emission Limit(s): 2.1 lb/hr, (Combined limit for EP SV4, EP SV5, EP SV6  
& EP SV7), 9.4 Tons/Yr (Plant-wide)  
Authority for Requirement: Iowa DNR Construction Permit 01-A-437 S5

Pollutant: Acrolein, HAP  
Emission Limit(s): 2.1 lb/hr, (Combined limit for EP SV4, EP SV5, EP SV6  
& EP SV7), 9.4 Tons/Yr (Plant-wide)  
Authority for Requirement: Iowa DNR Construction Permit 01-A-437 S5

Pollutant: Formaldehyde, HAP  
Emission Limit(s): 2.1 lb/hr, (Combined limit for EP SV4, EP SV5, EP SV6  
& EP SV7), 9.4 Tons/Yr (Plant-wide)  
Authority for Requirement: Iowa DNR Construction Permit 01-A-437 S5

Pollutant: Methanol, HAP  
Emission Limit(s): 2.1 lb/hr, (Combined limit for EP SV4, EP SV5, EP SV6  
& EP SV7), 9.4 Tons/Yr (Plant-wide)  
Authority for Requirement: Iowa DNR Construction Permit 01-A-437 S5

Pollutant: Total HAP  
Emission Limit(s): 4.17 lb/hr, (Combined limit for EP SV4, EP SV5,  
EP SV6 & EP SV7), 24.4 Tons/Yr (Plant-wide)  
Authority for Requirement: Iowa DNR Construction Permit 01-A-437 S5

### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

#### **NSPS Applicability**

The New Source Performance Standard, 40 CFR 60 Subpart VV, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, applies to this plant. See Appendix for the complete text of the Standard.

#### **Operating Limits**

1. The owner or operator shall inspect and maintain the control equipment according to manufacturer's specifications.
2. The owner or operator shall follow the applicable standards of Subpart VV, 40 CFR 60.480 through 60.489.
3. The thermal oxidizer shall maintain a temperature (3 hour average) during operation of within +/-50 degrees Fahrenheit of the average temperature of the oxidizer recorded during the most recent performance test which demonstrated compliance with the emission limits, and shall be operated at all times the equipment is being used.
4. The thermal oxidizer shall combust only natural gas and/or process offgases.

#### **Reporting and Record keeping:**

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The owner or operator shall keep records of control equipment inspections and maintenance.
2. The owner or operator shall keep hourly records of the operating temperature of the thermal oxidizer, and record all three hour periods (during actual operation) during which the average temperature of the oxidizer is more or less than 50 degrees Fahrenheit of the average temperature of the oxidizer during the most recent performance test which demonstrated compliance with the emission limits.
3. The owner or operator shall keep records as required in 40 CFR 60.486, and reports as required in 40 CFR 60.487.

Authority for Requirement: Iowa DNR Construction Permit 01-A-437 S5

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 68

Stack Opening, (inches, dia.): 36

Exhaust Flow Rate (scfm): 13,000

Exhaust Temperature (°F): 440

Discharge Style: Vertical unobstructed

Authority for Requirement: Iowa DNR Construction Permit 01-A-437 S5

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Stack Testing:**

Pollutant: VOC

1st Stack Test to be Completed by: 1/9/2009

Test Method: 40 CFR 60, Appendix A, Method 25 A

Authority for Requirement: 567 IAC 22.108(3)

*The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)*

**Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒**

**Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒**

**Compliance Assurance Monitoring (CAM) Plan Required? Yes ☒ No ☐**

**Relevant requirements of CAM plan for this equipment: VOC**

Authority for Requirement: 567 IAC 22.108(3)

## **Compliance Assurance Monitoring (CAM) Plan for EU 4.7**

### **I. Background**

#### **A. Emissions Unit**

Facility: Tall Corn Ethanol (TCE) Coon Rapids, Iowa  
Description: Beer Well (EU4.1) and 5 Batch Fermenters (EU4.2 to 4.6)  
Identification: EU 4.1, 4.2, 4.3, 4.4, 4.5 and 4.6

#### **B. Control Equipment**

Description: **Packed Bed Wet Scrubber (CS4)**  
**Recuperative Thermal Oxidizer (CS12)**  
Identification: CS4 AND CS 12  
PTE before controls: 438 ton/year VOC  
PTE after controls: 4.38 ton/year VOC @ 99.0% efficiency

#### **C. Applicable Regulation, Emission Limit, and Monitoring Requirements**

Regulation No.: Iowa DNR Construction Permit 01-A-437-S5  
VOC Emission Limit: 1.0 lb/hr VOC

### **II. Packed Bed Wet Scrubber (CS4) Monitoring Approach**

#### **A. Indicator**

Water Flow rate will be used as an indicator

#### **B. Indicator Range**

An excursion is defined as a 3-hour average scrubber water flow rate of less than 20 gal/min when scrubber is venting directly to the recuperative thermal oxidizer and less than 35 gal/min when vented directly to atmosphere. Excursions trigger an inspection, corrective action and a reporting requirements.

#### **C. Measurement Approach**

The water flow rate is monitored with a magnetic flow meter.

#### **D. QIP (Quality Improvement Plan) Threshold**

The QIP threshold is triggered when there are two (2) total excursions in a semi-annual reporting period (January 1 to June 30, or July 1 to December 31). A deviation shall be reported in the semi-annual report when the QIP threshold is triggered.

#### **E. Performance Criteria**

Data Representativeness: The flow meter is installed in the scrubber inlet line. The minimum accuracy is 0.05 gal/min. Water flow rate less than 20 gal/min (when thermal oxidizer is in

	operation) and less than 35 gal/min (when venting to atmosphere) would indicate a decrease in the performance of wet scrubber and potentially indicate an increase in VOC emissions.
Verification of operational status:	Records of water flow rate to wet scrubber readings will be maintained for two years.
QA/QC practices and criteria:	<p>1. Water Flow Meter for Scrubber, will be Calibrated Quarterly and cross validated with downstream flow meters.</p> <p>2. Annual scrubber cleaning and inspection.</p>
Monitoring frequency and data collection Procedure	Water Flow rate is measured continuously and recorded via data acquisition system.
Averaging Period:	3 hour average of 1 minute flow rates is calculated.

### III **Packed Bed Scrubber (CS4) Justification**

#### A. Background

VOC emissions from the Beer Well (EU 4.1) and 5 Batch Fermenters (EU 4.2 to 4.6) are controlled with a packed bed water scrubber using once through water in conjunction with a recuperative thermal oxidizer (RTO).

#### B. Rationale for Selection of Performance Indicator

With regard to the packed bed wet scrubber, the performance indicator selected is liquid flow to the scrubber. To achieve the required emission reduction, a minimum water flow must be supplied to absorb the given amount of VOC in the gas stream, given the size of the tower and the height of the packed bed. The liquid/gas (L/G) ratio is a key operating parameter of the scrubber. If the L/G ratio decreases below a minimum value, sufficient mass transfer of the pollutant from the gas phase to the liquid phase will not occur. The minimum flow required to maintain the proper L/G ratio at the maximum gas flow and vapor loading through the scrubber can be determined. Maintaining this minimum liquid flow, even during periods of reduced gas flow, will ensure the required L/G ratio is achieved at all times, thereby ensuring VOC emissions are reduced.

C. Rationale for Selection of Indicator Level

The minimum water flow is based on the operating conditions during the latest performance testing that showed compliance with the current emission limits. The minimum water flow rate to the scrubber was determined to be 20 gal/min. The water flow rate to the scrubber must be maintained at this level or higher to achieve 90 percent emission reduction.

IV. **Recuperative Thermal Oxidizer (CS12) Monitoring Approach**

A. Indicator

Combustion chamber temperature and annual burner inspection

B. Measurement Approach

- Combustion chamber temperature: Proper temperature range is related to good performance.
- Annual burner inspection: Maintain proper burner operation and efficiency.

C. Indicator Range

Combustion temperature must be maintained above  $1,350 \pm 50$  °F

D. Performance Criteria

Data Representativeness	To comply with NSPS 'temperature requirements', that demonstrates compliance with the emission limits.
Verification of Operational Status	A recording thermocouple will provide operating temperature of the combustion chamber
QA/QC Practices and Criteria:	Calibrate, maintain and operate instrumentation using procedures that take into account manufacturer's specifications.
Monitoring Frequency and Data:	Continuously recorded via data acquisition system
Collection Procedure:	Data acquisition system
Averaging Time	3 Hour

## **V. Recuperative Thermal Oxidizer (CS 12) Justification**

- A. Background and Rationale for selection of Performance Indicator:  
VOC emissions from the Beer Well (EU 4.1) and Batch Fermenters (EU 4.1- 4.6) are controlled using a packed bed water scrubber in conjunction with a recuperative thermal oxidizer (RTO). The background and rationale for the packed bed wet scrubber is addressed in Section III.

With regard to the RTO, the performance indicator selected is the combustion temperature as it is the best indicator of the collection and destruction efficiency of the RTO

B. Rationale for selection of Indicator Level

The minimum RTO temperature is based on the operating conditions during the latest performance testing that showed compliance with the current emission limits. The minimum combustion chamber temperature was determined to be  $1350 \pm 50$  °F. The combustion chamber temperature must be maintained at this level or higher to achieve 99 percent overall VOC emission reduction.

## **Emission Point ID Number: SV5**

### Associated Equipment

Associated Emission Unit ID Numbers: EU7

Emissions Control Equipment ID Number: CS5

Emissions Control Equipment Description: Packed Bed Wet Scrubber

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Emission Unit vented through this Emission Point: EU7

Emission Unit Description: Distillation

Raw Material/Fuel: Beer (Undistilled)

Rated Capacity: 39,303 gallons/hr

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Volatile Organic Compounds VOC

Emission Limit(s): 1.0 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 01-A-438 S4

Pollutant: Acetaldehyde, HAP

Emission Limit(s): 2.1 lb/hr, (Combined limit for EP SV4, EP SV5, EP SV6  
& EP SV7), 9.4 Tons/Yr (Plant-wide)

Authority for Requirement: Iowa DNR Construction Permit 01-A-438 S4

Pollutant: Acrolein, HAP

Emission Limit(s): 2.1 lb/hr, (Combined limit for EP SV4, EP SV5, EP SV6  
& EP SV7), 9.4 Tons/Yr (Plant-wide)

Authority for Requirement: Iowa DNR Construction Permit 01-A-438 S4

Pollutant: Formaldehyde, HAP

Emission Limit(s): 2.1 lb/hr, (Combined limit for EP SV4, EP SV5, EP SV6  
& EP SV7), 9.4 Tons/Yr (Plant-wide)

Authority for Requirement: Iowa DNR Construction Permit 01-A-438 S4

Pollutant: Methanol, HAP

Emission Limit(s): 2.1 lb/hr, (Combined limit for EP SV4, EP SV5, EP SV6  
& EP SV7), 9.4 Tons/Yr (Plant-wide)

Authority for Requirement: Iowa DNR Construction Permit 01-A-438 S4



Pollutant: Total HAP

Emission Limit(s): 4.17 lb/hr, (Combined limit for EP SV4, EP SV5,  
EP SV6 & EP SV7), 24.4 Tons/Yr (Plant-wide)

Authority for Requirement: Iowa DNR Construction Permit 01-A-438 S4

### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

### **NSPS Applicability**

The New Source Performance Standard, 40 CFR 60 Subpart VV, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, applies to this plant. See Appendix for the complete text of the Standard.

### **Operating Limits**

1. The owner or operator shall inspect and maintain the control equipment according to manufacturer's specifications.
2. The owner or operator shall follow the applicable standards of 40 CFR 60 Subpart VV, 40 CFR 60.480 through 60.489.

### **Reporting and Record keeping:**

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The owner or operator shall keep records of control equipment inspections and maintenance.
2. The owner or operator shall keep records as required in 40 CFR 60.486, and reports as required in 40 CFR 60.487.

Authority for Requirement: Iowa DNR Construction Permit 01-A-438 S4

### **Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 68

Stack Opening, (inches, dia.): 8

Exhaust Flow Rate (scfm): 360

Exhaust Temperature (°F): 75

Discharge Style: Vertical Unobstructed

Authority for Requirement: Iowa DNR Construction Permit 01-A-438 S4

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☒ No ☐

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

*Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.*

*Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.*

*Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.*

Authority for Requirement: 567 IAC 22.108(3)

## Emission Point ID Number: SV6

### Associated Equipment

Associated Emission Unit ID Numbers: See table below

Emissions Control Equipment ID Number: CS6, CS7 and CS8,

Emissions Control Equipment Description: Multi Cyclone and Regenerative Thermal  
Oxidizer

Continuous Emissions Monitors ID Numbers: TT

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Emission Unit vented through this Emission Point: See table below

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity
SV6	8a	Rotary Distiller's Grain Dryer # 1 Process	Wet Cake	23 tons/hr
	8b	Rotary Distiller's Grain Dryer #1 Combustion	Natural Gas	55 MMBtu/hr
	9a	Rotary Distiller's Grain Dryer #2 Process	Wet Cake	23 tons/hr
	9b	Rotary Distiller's Grain Dryer #2 Combustion	Natural Gas	55 MMBtu/hr
	15	Centrifuge # 1	Whole Stillage	50 tons/hr
	16	Centrifuge # 2	Whole Stillage	50 tons/hr
	17	Centrifuge # 3	Whole Stillage	50 ton/hr
	18	Centrifuge # 4	Whole Stillage	50 tons/hr
	30	Centrifuge # 5	Whole Stillage	50 tons/hr

## Applicable Requirements

### Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 01-A-439 S6  
567 IAC 23.3(2) "d"

- <sup>(1)</sup> An exceedance of the indicator opacity of 'no visible emissions' will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>  
Emission Limit(s): 10.8 lb/hr  
Authority for Requirement: Iowa DNR Construction Permit 01-A-439 S6

Pollutant: Particulate Matter  
Emission Limit(s): 10.8 lb/hr, 0.1gr/dscf  
Authority for Requirement; Iowa DNR Construction Permit 01-A-439 S6  
567 IAC 23.4 (7)

Pollutant: Nitrogen Oxides, NO<sub>x</sub>  
Emission Limit(s): 12.7 lb/hr  
Authority for Requirement: Iowa DNR Construction Permit 01-A-439 S6

Pollutant: Volatile Organic Compounds, VOC  
Emission Limit(s): 11.94 lb/hr  
Authority for Requirement: Iowa DNR Construction Permit 01-A-439 S6

Pollutant: Carbon Monoxide, CO  
Emission Limit(s): 15.5 lb/hr  
Authority for Requirement: Iowa DNR Construction Permit 01-A-439 S6

Pollutant: Acetaldehyde, HAP  
Emission Limit(s): 2.1 lb/hr, (Combined limit for EP SV4, EP SV5, EP SV6  
& EP SV7), 9.4 Tons/Yr (Plant-wide)  
Authority for Requirement: Iowa DNR Construction Permit 01-A-439 S6

Pollutant: Acrolein, HAP  
Emission Limit(s): 2.1 lb/hr, (Combined limit for EP SV4, EP SV5, EP SV6  
& EP SV7), 9.4 Tons/Yr (Plant-wide)  
Authority for Requirement: Iowa DNR Construction Permit 01-A-439 S6

Pollutant: Formaldehyde, HAP  
Emission Limit(s): 2.1 lb/hr, (Combined limit for EP SV4, EP SV5, EP SV6  
& EP SV7), 9.4 Tons/Yr (Plant-wide)  
Authority for Requirement: Iowa DNR Construction Permit 01-A-439 S6

Pollutant: Methanol, HAP  
Emission Limit(s): 2.1 lb/hr, (Combined limit for EP SV4, EP SV5, EP SV6  
& EP SV7), 9.4 Tons/Yr (Plant-wide)  
Authority for Requirement: Iowa DNR Construction Permit 01-A-439 S6

Pollutant: Total HAP  
Emission Limit(s): 4.17 lb/hr, (Combined limit for EP SV4, EP SV5,

EP SV6 & EP SV7), 24.4 Tons/Yr (Plant-wide)  
Authority for Requirement: Iowa DNR Construction Permit 01-A-439 S6

**Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

**NSPS Applicability**

The New Source Performance Standard, 40 CFR 60 Subpart VV, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, applies to this plant. See Appendix for the complete text of the Standard.

**Operating Limits**

1. The owner or operator shall follow the applicable standards of Subpart VV, 40 CFR 60.480 through 60.489.
2. The thermal oxidizer shall maintain a temperature (3 hour average) during operation of within +/-50 degrees Fahrenheit of the average temperature of the oxidizer recorded during the most recent performance test which demonstrated compliance with the emission limits, and shall be operated at all times the dryers or centrifuges are being used.
3. The dryers/thermal oxidizer shall combust only natural gas and/or process offgases.
4. The control equipment shall be inspected and maintained according to manufacturer's recommendations.

**Reporting and Record keeping:**

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The owner or operator shall keep hourly records of the operating temperature of the thermal oxidizer, and record all three- hour periods (during actual operation) during which the average temperature of the thermal oxidizer is more than 50 degrees Fahrenheit above or below the average temperature of the oxidizer during the most recent performance test which demonstrated compliance with the emission limits.
2. The owner or operator shall keep records as required in 40 CFR 60.486, and reports as required in 40 CFR 60.487.
3. The owner or operator shall keep records of control equipment inspections and maintenance.

Authority for Requirement: Iowa DNR Construction Permit 01-A-439 S6

### **Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 100

Stack Opening, (inches, dia.): 66

Exhaust Flow Rate (scfm): 65,500

Exhaust Temperature (°F): 330

Discharge Style: Vertical Unobstructed

Authority for Requirement: Iowa DNR Construction Permit 01-A-439 S6

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

### **Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

#### **Stack Testing:**

Pollutant: VOC, PM

1st Stack Test to be Completed by: 1/9/2009

Test Method: 40 CFR 60, Appendix A, Method 25A (for VOC)

Iowa Compliance Sampling Manual Method 5 (for PM)

Authority for Requirement: 567 IAC 22.108(3)

*The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)*

**Agency Approved Operation & Maintenance Plan Required? Yes ☒ No ☐**

**Relevant requirements of O & M plan for this equipment (CS 6 & 7): Particulate Matter**

**Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒**

**Compliance Assurance Monitoring (CAM) Plan Required? Yes ☒ No ☐**

**Relevant requirements of CAM plan for this equipment (CS 8): VOC**

Authority for Requirement: 567 IAC 22.108(3)

## **Multi Cyclone Agency Operation & Maintenance Plan**

This Operations and Maintenance (O & M) Plan pertains to the Multicyclones which are inherent part of the process equipments and service Emission Point SV6.

### **Monitoring Guidelines**

Tall Corn Ethanol makes commitment to take corrective action during period of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow up action to return operation within the indicator range. An excursion is determined by the averaged discrete data point over a period of time, or the presence of a monitored abnormal condition. An excursion does not necessarily indicate a violation of an applicable requirement. If the corrective action measures fail to return the indicators to the appropriate range, the facility will report the excursion to the department and continue to eliminate the root cause. Source testing will be conducted to achieve compliance within the applicable requirements. If the test demonstrates compliance with emission limits then new indicator ranges must be set for monitoring and the new ranges must be incorporated in the operating permit. If the test demonstrates non compliance with emission limits, then the facility, within 60 days proposes a schedule to implement corrective action to bring the source into compliance and demonstrate compliance.

### **Monitoring Methods & Corrective Actions**

#### **General**

- Periodic Monitoring is not required during periods of time greater than one day in which the source does not operate.
- Tall Corn Ethanol will maintain a written record of the observation, deficiencies and any action resulting from the inspections.

#### **Continuous**

- High level switches are present on the cyclones, monitored within the DCS to ensure appropriate cyclone operation. Activation of these high level switches will shutdown the entire dryer system.
- Tall Corn Ethanol will maintain a written record of the observation, deficiencies and any action resulting from the inspections.
- If leaks or abnormal conditions are detected the appropriate measures for remediation will be implemented within eight (8) hours.

#### **Daily**

- Visible emissions shall be observed on a daily basis to ensure no visible emissions during the material handling operation of the unit. If visible emissions are observed this would be an exceedence not a violation and action will be taken as soon as possible, but no later than 8 hour after the occurrence.
- Tall Corn Ethanol will maintain a written record of the observations, deficiencies and any action resulting from the inspection.

- If leaks or abnormal conditions are detected the appropriate measures for remediation will be implemented within eight (8) hours.

### **Monthly**

- An Opacity reading will be conducted once per month. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. If unsuccessful that day due to weather, an observation shall be made the following day.
- Tall Corn Ethanol will maintain a written record of the observations, deficiencies and any action resulting from the inspection.
- If leaks or abnormal conditions are detected the appropriate measures for remediation will be implemented within eight (8) hours.

### **Semi-Annual**

- Inspect the structural components including the cyclone ductwork and hoods for leaks or component failure.
- Tall Corn Ethanol will maintain a written record of the observations, deficiencies and any action resulting from the inspection.
- If leaks or abnormal conditions are detected the appropriate measures for remediation will be implemented within eight (8) hours.

### **Annual**

- Inspect the hopper unloading components.
- Check for leaks in the system to ensure the airflow from the dirty side doesn't infiltrate the clean side. Verify that the inlet and outlet ductwork is in good operating condition.
- Check the barrel and collecting tube for deposits and/or excess wear and clean/repair as needed. Dents in the barrel or collecting tube must be removed to ensure proper operation.
- Clean cyclone inlet vanes (ramps or spinners) and ensure they operate according to manufacture specifications.
- Tall Corn Ethanol will maintain a written record of the observations, deficiencies and any action resulting from the inspection.
- If leaks or abnormal conditions are detected the appropriate measures for remediation will be implemented before the system is returned to service.

### **Record Keeping and Reporting**

- Tall Corn Ethanol will maintain a written or electronic record of all inspections and any action resulting from the inspections.
- Tall Corn Ethanol will keep maintenance and inspection records for five (5) years and will be available upon request.



**Quality Control**

- All instruments and control equipment will be calibrated, maintained, and operated according to the manufacture specifications.

Authority for Requirement: 567 IAC 22.108(3)"b"

## **Compliance Assurance Monitoring (CAM) Plan for Regenerative Thermal Oxidizer (RTO CS-8) for VOC**

### **I. Background**

#### **A. Emissions Unit**

Facility: Tall Corn Ethanol (TCE) Coon Rapids, Iowa  
Description: 5 Centrifuges (EU 15-18, 30) & 2- Distillers Grain Dryers (EU8, 9)  
Identification: EU 8, 9, 15, 17, 18, 30

#### **B. Control Equipment**

Description: **Multi Cyclones(CS6, CS7)**  
**Regenerative Thermal Oxidizer (CS8)**  
Identification: CS6, CS7 and CS 8  
PTE before controls: 1045.9 ton/year VOC  
PTE after controls: 52.3 ton/year VOC @ 95.0% efficiency

#### **C. Applicable Regulation, Emission Limit, and Monitoring Requirements**

Regulation No.: Iowa DNR Construction Permit 01-A-439-S6  
VOC Emission Limit: 11.94 lb/hr VOC  
Monitoring Requirements: RTO- Combustion chamber temperature and annual burner inspection

### **IV. Regenerative Thermal Oxidizer (CS8) Monitoring Approach**

#### **A. Indicator**

Combustion chamber temperature and annual burner inspection

#### **B. Measurement Approach**

- Combustion chamber temperature: Proper temperature range is related to good performance.
- Annual burner inspection: Maintain proper burner operation and efficiency.

#### **C. Indicator Range**

Combustion temperature must be maintained above  $1,650 \pm 50$  °F

#### D. Performance Criteria

Data Representativeness	To comply with NSPS 'temperature requirements', that demonstrates compliance with the emission limits.
Verification of Operational Status	A recording thermocouple will provide operating temperature of the combustion chamber
QA/QC Practices and Criteria:	Calibrate, maintain and operate instrumentation using procedures that take into account manufacturer's specifications.
Monitoring Frequency and Data:	Continuously recorded via data acquisition system
Collection Procedure:	Data acquisition system
Averaging Time	3 Hour

#### **V. Regenerative Thermal Oxidizer (CS 8) Justification**

- A. Background and Rationale for selection of Performance Indicator:  
VOC emissions from the Centrifuges (EU 15,16,17,18 and 30) and DDGS Dryers (EU 8, 9) are controlled using a regenerative thermal oxidizer (RTO).

With regard to the RTO, the performance indicator selected is the combustion temperature as it is the best indicator of the collection and destruction efficiency of the RTO

- B. Rationale for selection of Indicator Level  
The minimum RTO temperature is based on the operating conditions during the latest performance testing that showed compliance with the current emission limits. The minimum combustion chamber temperature was determined to be  $1650 \pm 50$  °F. The combustion chamber temperature must be maintained at this level or higher to achieve 95 percent overall VOC emission reduction.

## **Emission Point ID Number: EP SV 6A**

### Associated Equipment

Associated Emission Unit ID Numbers: Dryers 1 & 2 Purge/Bypass Stack

Emissions Control Equipment ID Number: C6 & C7

Emissions Control Equipment Description: Cyclones

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Emission Unit vented through this Emission Point:

Emission Unit Description: Dryers 1 & 2 Purge/Bypass Stack

Raw Material/Fuel:

Rated Capacity:

## **Applicable Requirements**

### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

None at this time

### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

### **Operating Limits**

1. The owner or operator shall use this bypass stack only for startup purges of natural gas in the dryers or for malfunctions in the RTO control system as outlined in the "Control Equipment Operation Policy" TCE submitted to the IDNR in the application for Project 04-180

### **Reporting and Record keeping:**

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The owner or operator shall keep records of the frequency and amount of time the thermal oxidizer malfunctions during drying operations, and estimate the emissions emitted during said malfunctions

Authority for Requirement: Iowa DNR Construction Permit 02-A-505 S1

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 85

Stack Opening, (inches, dia.): 66

Exhaust Flow Rate (scfm): NA- Purge or emergency bypass

Exhaust Temperature (°F): Purge

Discharge Style: Vertical Unobstructed

Authority for Requirement: Iowa DNR Construction Permit 02-A-505 S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: SV7**

### Associated Equipment

Associated Emission Unit ID Numbers: EU10  
Emissions Control Equipment ID Number: CS9  
Emissions Control Equipment Description: Baghouse

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Emission Unit vented through this Emission Point: EU10  
Emission Unit Description: Dried Distiller's Grain Cooling Cyclone  
Raw Material/Fuel: Dried Distiller's Grain  
Rated Capacity: 23 tons/hr

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 01-A-440 S4  
567 IAC 23.3(2) "d"

<sup>(1)</sup> An exceedance of the indicator opacity of 'no visible emissions' will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>

Emission Limit(s): 1.1 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 01-A-440 S4

Pollutant: Particulate Matter

Emission Limit(s): 1.1 lb/hr, 0.1 gr/dscf

Authority for Requirement; Iowa DNR Construction Permit 01-A-440 S4  
567 IAC 23.4 (7)

Pollutant: Volatile Organic Compounds, VOC

Emission Limit(s): 1.4 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 01-A-440 S4

Pollutant: Acetaldehyde, HAP

Emission Limit(s): 2.1 lb/hr, (Combined limit for EP SV4, EP SV5, EP SV6  
& EP SV7), 9.4 Tons/Yr (Plant-wide)

Authority for Requirement: Iowa DNR Construction Permit 01-A-440 S4

Pollutant: Acrolein, HAP

Emission Limit(s): 2.1 lb/hr, (Combined limit for EP SV4, EP SV5, EP SV6 & EP SV7), 9.4 Tons/Yr (Plant-wide)

Authority for Requirement: Iowa DNR Construction Permit 01-A-440 S4

Pollutant: Formaldehyde, HAP

Emission Limit(s): 2.1 lb/hr, (Combined limit for EP SV4, EP SV5, EP SV6 & EP SV7), 9.4 Tons/Yr (Plant-wide)

Authority for Requirement: Iowa DNR Construction Permit 01-A-440 S4

Pollutant: Methanol, HAP

Emission Limit(s): 2.1 lb/hr, (Combined limit for EP SV4, EP SV5, EP SV6 & EP SV7), 9.4 Tons/Yr (Plant-wide)

Authority for Requirement: Iowa DNR Construction Permit 01-A-440 S4

Pollutant: Total HAP

Emission Limit(s): 4.17 lb/hr, (Combined limit for EP SV4, EP SV5, EP SV6 & EP SV7), 24.4 Tons/Yr (Plant-wide)

Authority for Requirement: Iowa DNR Construction Permit 01-A-440 S4

### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

#### **Operating Limits**

1. The owner or operator shall inspect and maintain the control equipment according to manufacturer's specifications.

#### **Reporting and Record keeping:**

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

2. The owner or operator shall keep records of control equipment inspections and maintenance.

Authority for Requirement: Iowa DNR Construction Permit 01-A-440 S4

### **Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 15

Stack Opening, (inches, dia.): 24

Exhaust Flow Rate (acfm): 23,800

Exhaust Temperature (°F): 100

Discharge Style: Vertical obstructed or horizontal

Authority for Requirement: Iowa DNR Construction Permit 01-A-440 S4

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☒ No ☐

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

*Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.*

*Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.*

*Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.*

Authority for Requirement: 567 IAC 22.108(3)



## **Emission Point ID Number: SV8**

### Associated Equipment

Associated Emission Unit ID Numbers: EU11  
Emissions Control Equipment ID Number: CS10  
Emissions Control Equipment Description: Baghouse

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Emission Unit vented through this Emission Point: EU11  
Emission Unit Description: Dried Distiller's Grain Storage Silo  
Raw Material/Fuel: Grain  
Rated Capacity: 23 tons grain/hr

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 01-A-441  
567 IAC 23.3(2) "d"

<sup>(1)</sup> An exceedance of the indicator opacity of 'no visible emissions' will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>

Emission Limit(s): 0.1 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 01-A-441

Pollutant: Particulate Matter

Emission Limit(s): 0.1 lb/hr, 0.1 gr/dscf

Authority for Requirement; Iowa DNR Construction Permit 01-A-441  
567 IAC 23.3 (2) "a"

#### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

#### **Operating Limits**

1. The owner or operator shall inspect and maintain the control equipment according to manufacturer's specifications.

Reporting and Record keeping:

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The owner or operator shall keep records of control equipment inspections and repairs.

Authority for Requirement: Iowa DNR Construction Permit 01-A-441

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 114

Stack Opening, (inches, dia.): 4x6

Exhaust Flow Rate (acfm): 850

Exhaust Temperature (°F): Ambient

Discharge Style: Vertical Obstructed or horizontal

Authority for Requirement: Iowa DNR Construction Permit 01-A-441

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: SV9**

### Associated Equipment

Associated Emission Unit ID Numbers: EU12

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Emission Unit vented through this Emission Point: EU12

Emission Unit Description: Boiler # 1

Raw Material/Fuel: Natural Gas

Rated Capacity: 81 MMBtu/hr

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 01-A-442 S3

567 IAC 23.3(2) "d"

<sup>(1)</sup> An exceedance of the indicator opacity of 'no visible emissions' will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>

Emission Limit(s): 0.2 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 01-A-442 S3

Pollutant: Particulate Matter

Emission Limit(s): 0.2 lb/hr, 0.1gr/dscf

Authority for Requirement; Iowa DNR Construction Permit 01-A-442 S3

567 IAC 23.3 (2) "a"

Pollutant: Nitrogen Oxides, NO<sub>x</sub>

Emission Limit(s): 2.9 lb/hr, 0.04 lb/MMBtu & 25.4 Tons/Yr (Combined limit for all three Boilers SV 9, SV10 and SV11),

Authority for Requirement: Iowa DNR Construction Permit 01-A-442 S3

Pollutant: Volatile Organic Compounds, VOC

Emission Limit(s): 0.32 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 01-A-442 S3

Pollutant: Carbon Monoxide, CO

Emission Limit(s): 2.8 lb/hr, 0.037 lb/MMBtu & 24.53 Tons/Yr (Combined limit for all three Boilers SV 9, SV10 and SV11),

Authority for Requirement: Iowa DNR Construction Permit 01-A-442 S3

**Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

**NSPS Applicability**

The NSPS standard, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, applies to this unit. Reduced recordkeeping has been included, according to the EPA-Iowa agreement of April 16, 1998. (Please note that, reduced recordkeeping is already included in 40 CFR 60.48c (g), Subpart Dc, as per EPA letter dated 3/7/2006, attached as Appendix A. This letter is for informational purpose only.)

**Operating Limits**

1. The unit shall combust only natural gas.
2. The total amount of natural gas combusted in all boilers plantwide (EPs SV 9, SV 10 and SV 11) shall not exceed 1,350 MMscf per twelve month rolling period.

**Reporting and Recordkeeping**

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The owner or operator shall record monthly the amount of fuel combusted in this unit.
2. The owner or operator shall update the twelve month rolling total amount of fuel (in MMscf) combusted in all boilers plantwide on a monthly basis.

Authority for Requirement: Iowa DNR Construction Permit 01-A-442 S3

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 32

Stack Opening, (inches, dia.): 36

Exhaust Flow Rate (acfm): 30,000

Exhaust Temperature (°F): 410

Discharge Style: Vertical Unobstructed

Authority for Requirement: Iowa DNR Construction Permit 01-A-442 S3

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: SV10**

### Associated Equipment

Associated Emission Unit ID Numbers: EU13

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Emission Unit vented through this Emission Point: EU13

Emission Unit Description: Boiler # 2

Raw Material/Fuel: Natural Gas

Rated Capacity: 81 MMBtu/hr

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 01-A-443 S3

567 IAC 23.3(2) "d"

<sup>(1)</sup> An exceedance of the indicator opacity of 'no visible emissions' will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>

Emission Limit(s): 0.2 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 01-A-443 S3

Pollutant: Particulate Matter

Emission Limit(s): 0.2 lb/hr, 0.1gr/dscf

Authority for Requirement; Iowa DNR Construction Permit 01-A-443 S3

567 IAC 23.3 (2) "a"

Pollutant: Nitrogen Oxides, NO<sub>x</sub>

Emission Limit(s): 2.9 lb/hr, 0.04 lb/MMBtu & 25.4 Tons/Yr (Combined limit for all three Boilers SV 9, SV10 and SV11),

Authority for Requirement: Iowa DNR Construction Permit 01-A-443 S3

Pollutant: Volatile Organic Compounds, VOC

Emission Limit(s): 0.32 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 01-A-443 S3

Pollutant: Carbon Monoxide, CO

Emission Limit(s): 2.8 lb/hr, 0.037 lb/MMBtu & 24.53 Tons/Yr (Combined limit for all three Boilers SV 9, SV10 and SV11),

Authority for Requirement: Iowa DNR Construction Permit 01-A-443 S3

### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

### **NSPS Applicability**

The NSPS standard, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, applies to this unit. Reduced recordkeeping has been included, according to the EPA-Iowa agreement of April 16, 1998. (Please note that, reduced recordkeeping is already included in 40 CFR 60.48c (g), Subpart Dc, as per EPA letter dated 3/7/2006, attached as Appendix A. This letter is for informational purpose only.)

### **Operating Limits**

1. The unit shall combust only natural gas.
2. The total amount of natural gas combusted in all boilers plantwide (EPs SV 9, SV 10 and SV 11) shall not exceed 1,350 MMscf per twelve month rolling period.

### **Reporting and Recordkeeping**

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The owner or operator shall record monthly the amount of fuel combusted in this unit.
2. The owner or operator shall update the twelve month rolling total amount of fuel (in MMscf) combusted in all boilers plantwide on a monthly basis.

Authority for Requirement: Iowa DNR Construction Permit 01-A-443 S3

### **Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 32

Stack Opening, (inches, dia.): 36

Exhaust Flow Rate (acfm): 30,000

Exhaust Temperature (°F): 410

Discharge Style: Vertical Unobstructed

Authority for Requirement: Iowa DNR Construction Permit 01-A-443 S3

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)



## **Emission Point ID Number: SV11**

### Associated Equipment

Associated Emission Unit ID Numbers: EU14

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Emission Unit vented through this Emission Point: EU14

Emission Unit Description: Boiler # 3

Raw Material/Fuel: Natural Gas

Rated Capacity: 81 MMBtu/hr

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 01-A-444 S3  
567 IAC 23.3(2) "d"

<sup>(1)</sup> An exceedance of the indicator opacity of 'no visible emissions' will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>

Emission Limit(s): 0.2 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 01-A-444 S3

Pollutant: Particulate Matter

Emission Limit(s): 0.2 lb/hr, 0.1gr/dscf

Authority for Requirement; Iowa DNR Construction Permit 01-A-444 S3  
567 IAC 23.3 (2) "a"

Pollutant: Nitrogen Oxides, NO<sub>x</sub>

Emission Limit(s): 2.9 lb/hr, 0.04 lb/MMBtu & 25.4 Tons/Yr (Combined limit for all three Boilers SV 9, SV10 and SV11),

Authority for Requirement: Iowa DNR Construction Permit 01-A-444 S3

Pollutant: Volatile Organic Compounds, VOC

Emission Limit(s): 0.32 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 01-A-444 S3

Pollutant: Carbon Monoxide, CO

Emission Limit(s): 2.8 lb/hr, 0.037 lb/MMBtu & 24.53 Tons/Yr (Combined limit for all three Boilers SV 9, SV10 and SV11),

Authority for Requirement: Iowa DNR Construction Permit 01-A-444 S3

### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

### **NSPS Applicability**

The NSPS standard, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, applies to this unit. Reduced recordkeeping has been included, according to the EPA-Iowa agreement of April 16, 1998. (Please note that, reduced recordkeeping is already included in 40 CFR 60.48c (g), Subpart Dc, as per EPA letter dated 3/7/2006, attached as Appendix A. This letter is for informational purpose only.)

### **Operating Limits**

1. The unit shall combust only natural gas.
2. The total amount of natural gas combusted in all boilers plantwide (EPs SV 9, SV 10 and SV 11) shall not exceed 1,350 MMscf per twelve month rolling period.

### **Reporting and Recordkeeping**

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The owner or operator shall record monthly the amount of fuel combusted in this unit.
2. The owner or operator shall update the twelve month rolling total amount of fuel (in MMscf) combusted in all boilers plantwide on a monthly basis.

Authority for Requirement: Iowa DNR Construction Permit 01-A-444 S3

### **Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 32

Stack Opening, (inches, dia.): 36

Exhaust Flow Rate (scfm): 30,000

Exhaust Temperature (°F): 410

Discharge Style: Vertical Unobstructed

Authority for Requirement: Iowa DNR Construction Permit 01-A-444 S3

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: SV22**

### Associated Equipment

Associated Emission Unit ID Numbers: EU 19

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Emission Unit vented through this Emission Point: EU19

Emission Unit Description: Diesel Generator

Raw Material/Fuel: Diesel

Rated Capacity: 75 gallons/hr (1000 KW)

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 02-A-510 S2  
567 IAC 23.3(2) "d"

<sup>(1)</sup> An exceedance of the indicator opacity of (25%) will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedance continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>

Emission Limit(s): 1.0 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 02-A-510 S2

Pollutant: Particulate Matter

Emission Limit(s): 1.0 lb/hr

Authority for Requirement; Iowa DNR Construction Permit 02-A-510 S2

Pollutant: Sulfur Dioxide, SO<sub>2</sub>

Emission Limit(s): 5.5 lb/hr

Authority for Requirement; Iowa DNR Construction Permit 02-A-510 S2

Pollutant: Nitrogen Oxides, NO<sub>x</sub>

Emission Limit(s): 48.24 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 02-A-510 S2

Pollutant: Volatile Organic Compounds, VOC

Emission Limit(s): 0.62 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 02-A-510 S2

Pollutant: Carbon Monoxide, CO

Emission Limit(s): 2.93 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 02-A-510 S2

### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

#### **Operating Limits:**

1. The maximum sulfur content of the fuel combusted in this unit shall not exceed 0.5% by weight.
2. The unit shall operate no more than 500 hours per twelve-month rolling period.
3. The emergency generator may operate for plant lighting and to run the cooling tower pumps. The unit shall not operate when other emission units are operating.
4. The unit shall be tested the first time it exceeds 250 hours of operation per twelve-month rolling period.

#### **Reporting and Recordkeeping:**

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. The owner/operator shall maintain the following records:

1. The owner or operator shall keep records demonstrating the sulfur content of the fuel. This may be done by fuel oil vendor certification or testing using the appropriate ASTM test method for each tank of fuel received.
2. The owner or operator shall keep records of the hours of operation, and update the rolling twelve-month total hours of operation on a monthly basis.

Authority for Requirement: Iowa DNR Construction Permit 02-A-510 S2

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 15

Stack Opening, (inches, dia.): 8

Exhaust Flow Rate (scfm): 7600

Exhaust Temperature (°F): 810

Discharge Style: Vertical w/o Obstruction

Authority for Requirement: Iowa DNR Construction Permit 02-A-510 S2

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: SV Flare 1**

### Associated Equipment

Associated Emission Unit ID Numbers: EU20  
Emissions Control Equipment ID Number: Flare1  
Emissions Control Equipment Description: Flare

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Emission Unit vented through this Emission Point: EU20  
Emission Unit Description: Ethanol Loadout  
Raw Material/Fuel: Denatured Ethanol  
Rated Capacity:

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 02-A-788 S3  
567 IAC 23.3(2) "d"

<sup>(1)</sup> An exceedance of the indicator opacity of (20%) will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedance continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement; Iowa DNR Construction Permit 02-A-788 S3  
567 IAC 23.3(2) "a"

#### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

##### Operating Limits:

1. The owner or operator shall inspect and maintain the control equipment according to manufacturer's specifications.
2. A maximum of 65 million gallons of denatured ethanol per twelve month rolling period plantwide may be loaded at any loadout.
3. A maximum of 53 million gallons per twelve month rolling period may be loaded at the rail loadout.

4. A maximum of 1.5 million gallons per twelve month rolling period may be loaded at the truck loadout without the flare being used for control.
5. Ethanol shall not be loaded into railcars that had been used for denaturant hauling.

#### **Reporting and Recordkeeping**

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The owner or operator shall keep records of control equipment inspections and repairs
2. The owner or operator shall keep records of the amount of ethanol that is loaded both plantwide and at the rail loadout, and update the rolling twelve month total amount for each category monthly.
3. The owner or operator shall keep records of the amount of ethanol that is loaded at the truck loadout when the flare is not operating, and update the rolling twelve month total amount monthly.

Authority for Requirement: Iowa DNR Construction Permit 02-A-788 S3

#### **Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 20

Stack Opening, (inches, dia.): 6

Exhaust Flow Rate (scfm): 100

Exhaust Temperature (°F): 1400

Discharge Style: Vertical Unobstructed

Authority for Requirement: Iowa DNR Construction Permit 02-A-788 S3

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

#### **Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)



## **Emission Point ID Number: SV23**

### Associated Equipment

Associated Emission Unit ID Numbers: EU21  
Emissions Control Equipment ID Number: CS13  
Emissions Control Equipment Description: Baghouse

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Emission Unit vented through this Emission Point: EU21  
Emission Unit Description: Corn Cleaning Section  
Raw Material/Fuel: Corn  
Rated Capacity: 75 tons/hr

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 04-A-577 S1  
567 IAC 23.3(2) "d"

<sup>(1)</sup> An exceedance of the indicator opacity of 'no visible emissions' will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedance continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>

Emission Limit(s): 1.53 lb/hr

Authority for Requirement; Iowa DNR Construction Permit 04-A-577 S1

Pollutant: Particulate Matter, PM

Emission Limit(s): 1.53 lb/hr, 0.1 gr/dscf

Authority for Requirement; Iowa DNR Construction Permit 04-A-577 S1  
567 IAC 23.3(2) "a"

#### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

#### **Operating Limits**

1. The control equipment shall be operated and maintained per the manufacturer's instructions and specifications

### Reporting and Record keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. The owner/operator shall maintain the following records:

1. Maintain a record of all maintenance and repair to the control equipment.

Authority for Requirement: Iowa DNR Construction Permit 04-A-577 S1

### Emission Point Characteristics

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 116

Stack Opening, (inches, dia.): 46

Exhaust Flow Rate (scfm): 35,674

Exhaust Temperature (°F): Ambient

Discharge Style: Vertical

Authority for Requirement: Iowa DNR Construction Permit 04-A-577 S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

### Monitoring Requirements

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☒ No ☐

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

*Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.*

*Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.*

*Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.*

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: SV24**

### Associated Equipment

Associated Emission Unit ID Numbers: EU22  
Emissions Control Equipment ID Number: CS14  
Emissions Control Equipment Description: Pulse Jet Bag house

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Emission Unit vented through this Emission Point: EU22  
Emission Unit Description: Debranning Section  
Raw Material/Fuel: Corn  
Rated Capacity: 75 tons/hr

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 04-A-578 S1  
567 IAC 23.3(2) "d"

<sup>(1)</sup> An exceedance of the indicator opacity of 'no visible emissions' will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedance continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>

Emission Limit(s): 0.68 lb/hr

Authority for Requirement; Iowa DNR Construction Permit 04-A-578 S1

Pollutant: Particulate Matter, PM

Emission Limit(s): 0.68 lb/hr, 0.1 gr/dscf

Authority for Requirement; Iowa DNR Construction Permit 04-A-578 S1  
567 IAC 23.3(2) "a"

#### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

#### **Operating Limits**

1. The control equipment shall be operated and maintained per the manufacturer's instructions and specifications

### Reporting and Record keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. The owner/operator shall maintain the following records:

1. Maintain a record of all maintenance and repair to the control equipment.

Authority for Requirement: Iowa DNR Construction Permit 04-A-578 S1

### Emission Point Characteristics

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 116

Stack Opening, (inches, dia.): 32

Exhaust Flow Rate (scfm): 15,895

Exhaust Temperature (°F): Ambient

Discharge Style: Vertical

Authority for Requirement: Iowa DNR Construction Permit 04-A-578 S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

### Monitoring Requirements

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: SV25**

### Associated Equipment

Associated Emission Unit ID Numbers: EU23  
Emissions Control Equipment ID Number: CS15  
Emissions Control Equipment Description: Pulse Jet Baghouse

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Emission Unit vented through this Emission Point: EU23  
Emission Unit Description: General Exhaust System  
Raw Material/Fuel: Corn (scalped)  
Rated Capacity: 75 tons/hr

## **Applicable Requirements**

### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity  
Emission Limit(s): 40% <sup>(1)</sup>  
Authority for Requirement: Iowa DNR Construction Permit 04-A-579 S1  
567 IAC 23.3(2) "d"

<sup>(1)</sup> An exceedance of the indicator opacity of 'no visible emissions' will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedance continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>  
Emission Limit(s): 2.82 lb/hr  
Authority for Requirement; Iowa DNR Construction Permit 04-A-579 S1

Pollutant: Particulate Matter, PM  
Emission Limit(s): 2.82 lb/hr, 0.1 gr/dscf  
Authority for Requirement; Iowa DNR Construction Permit 04-A-579 S1  
567 IAC 23.3(2) "a"

### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

#### Operating Limits:

1. The control equipment shall be operated and maintained per the manufacturer's instructions and specifications

Reporting and Record keeping:

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. The owner/operator shall maintain the following records:

1. Maintain a record of all maintenance and repair to the control equipment.

Authority for Requirement: Iowa DNR Construction Permit 04-A-579 S1

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 113

Stack Opening, (inches, dia.): 62x62

Exhaust Flow Rate (scfm): 65,865

Exhaust Temperature (°F): Ambient

Discharge Style: Horizontal

Authority for Requirement: Iowa DNR Construction Permit 04-A-579 S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☒ No ☐

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

*Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.*

*Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.*

*Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.*

Authority for Requirement: 567 IAC 22.108(3)



## Emission Point ID Number: SV 26

### Associated Equipment

Associated Emission Unit ID Numbers: EU 24a, EU24b

Emissions Control Equipment ID Number: CS16

Emissions Control Equipment Description: Multi Cyclone Collector

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Emission Unit vented through this Emission Point: See Table Below

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity
SV26	EU 24a	Corn Germ Dryer Process	Corn Germ	7 tons/hr
	EU24b	Corn Germ Dryer Combustion	Natural Gas	7.2 MMBtu/hr

### Applicable Requirements

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 04-A-580 S1

567 IAC 23.3(2) "d"

<sup>(1)</sup> An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedance continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>

Emission Limit(s): 6.69 lb/hr

Authority for Requirement; Iowa DNR Construction Permit 04-A-580 S1

Pollutant: Particulate Matter, PM

Emission Limit(s): 6.69 lb/hr, 0.1 gr/dscf

Authority for Requirement; Iowa DNR Construction Permit 04-A-580 S1

567 IAC 23.3(2) "a"

Pollutant: Sulfur Dioxide, SO<sub>2</sub>

Emission Limit(s): 500 ppm

Authority for Requirement: Iowa DNR Construction Permit 04-A-580 S1

567 IAC 23.3(3)

Pollutant: Volatile Organic Compounds, VOC

Emission Limit(s): 4.5 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 04-A-580 S1

**Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

**Operating Limits**

1. The control equipment shall be operated and maintained per the manufacturer's instructions and specifications

**Reporting and Record keeping**

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. The owner/operator shall maintain the following records:

1. Maintain a record of all maintenance and repair to the control equipment.

Authority for Requirement: Iowa DNR Construction Permit 04-A-580 S1

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 116

Stack Opening, (inches, dia.): 49x28

Exhaust Flow Rate (scfm): 52,000

Exhaust Temperature (°F): 120

Discharge Style: Vertical w/ obstruction

Authority for Requirement: Iowa DNR Construction Permit 04-A-580 S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

### **Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

#### **Stack Testing:**

Pollutant: PM

1st Stack Test to be Completed by: 1/9/2009

Test Method: Iowa Compliance Sampling Manual Method 5

Authority for Requirement: 567 IAC 22.108(3)

*The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)*

**Agency Approved Operation & Maintenance Plan Required? Yes ☒ No ☐**

**Relevant requirements of O & M plan for this equipment (CS16): Particulate Matter**

**Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒**

**Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒**

*Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.*

*Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.*

*Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.*

Authority for Requirement: 567 IAC 22.108(3)

## **Multi Cyclone Collector (Corn Germ Dryer) Agency Operation & Maintenance Plan**

This Operations and Maintenance (O & M) Plan pertains to the Multicyclones which are inherent part of the process equipments and service Emission Point SV6.

### **Monitoring Guidelines**

Tall Corn Ethanol makes commitment to take corrective action during period of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow up action to return operation within the indicator range. An excursion is determined by the averaged discrete data point over a period of time, or the presence of a monitored abnormal condition. An excursion does not necessarily indicate a violation of an applicable requirement. If the corrective action measures fail to return the indicators to the appropriate range, the facility will report the excursion to the department and continue to eliminate the root cause. Source testing will be conducted to achieve compliance within the applicable requirements. If the test demonstrates compliance with emission limits then new indicator ranges must be set for monitoring and the new ranges must be incorporated in the operating permit. If the test demonstrates non compliance with emission limits, then the facility, within 60 days proposes a schedule to implement corrective action to bring the source into compliance and demonstrate compliance.

### **Monitoring Methods & Corrective Actions**

#### **General**

- Periodic Monitoring is not required during periods of time greater than one day in which the source does not operate.
- Tall Corn Ethanol will maintain a written record of the observation, deficiencies and any action resulting from the inspections.

#### **Continuous**

- Pressure drops shall be observed within the DCS to insure appropriate cyclone operations. High level switches will sound an audio alarm when activated. Appropriate corrective actions shall be taken to manage and resolve the occurrence.
- Tall Corn Ethanol will maintain a written record of the observation, deficiencies and any action resulting from the inspections.
- If leaks or abnormal conditions are detected, the appropriate measures for remediation will be implemented within eight (8) hours.

#### **Daily**

- Visible emissions shall be observed on a daily basis to ensure no visible emissions during the material handling operation of the unit. If visible emissions are observed this would be an exceedence not a violation and action will be taken as soon as possible, but no later than 8 hour after the occurrence.

- Tall Corn Ethanol will maintain a written record of the observations, deficiencies and any action resulting from the inspection.
- If leaks or abnormal conditions are detected, the appropriate measures for remediation will be implemented within eight (8) hours.

#### **Semi-Annual**

- Inspect the structural components including the cyclone ductwork and hoods for leaks or component failure.
- Tall Corn Ethanol will maintain a written record of the observations, deficiencies and any action resulting from the inspection.
- If leaks or abnormal conditions are detected the appropriate measures for remediation will be implemented within eight (8) hours.

#### **Annual**

- Inspect the hopper unloading components.
- Check for leaks in the system to ensure the airflow from the dirty side doesn't infiltrate the clean side. Verify that the inlet and outlet ductwork is in good operating condition.
- Check the barrel and collecting tube for deposits and/or excess wear and clean/repair as needed. Dents in the barrel or collecting tube must be removed to ensure proper operation.
- Clean cyclone inlet and ensure they operate according to manufacture specifications.
- Tall Corn Ethanol will maintain a written record of the observations, deficiencies and any action resulting from the inspection.
- If leaks or abnormal conditions are detected the appropriate measures for remediation will be implemented before the system is returned to service.

#### **Record Keeping and Reporting**

- Tall Corn Ethanol will maintain a written or electronic record of all inspections and any action resulting from the inspections.
- Tall Corn Ethanol will keep maintenance and inspection records for five (5) years and will be available upon request.

#### **Quality Control**

- All instruments and control equipment will be calibrated, maintained, and operated according to the manufacture specifications.

Authority for Requirement: 567 IAC 22.108(3)"b"

## **Emission Point ID Number: SV27**

### Associated Equipment

Associated Emission Unit ID Numbers: EU25  
Emissions Control Equipment ID Number: CS17  
Emissions Control Equipment Description: Bag house

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Emission Unit vented through this Emission Point: EU25  
Emission Unit Description: Germ Conveyor and Receiver  
Raw Material/Fuel: Corn Germ  
Rated Capacity: 7 tons/hr

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 04-A-581  
567 IAC 23.3(2) "d"

<sup>(1)</sup> An exceedance of the indicator opacity of 'no visible emissions' will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedance continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>

Emission Limit(s): 0.11 lb/hr

Authority for Requirement; Iowa DNR Construction Permit 04-A-581

Pollutant: Particulate Matter, PM

Emission Limit(s): 0.11 lb/hr, 0.1 gr/dscf

Authority for Requirement; Iowa DNR Construction Permit 04-A-581  
567 IAC 23.3(2) "a"

#### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

#### **Operating Limits**

1. The control equipment shall be operated and maintained per the manufacturer's instructions and specifications

### Reporting and Record keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. The owner/operator shall maintain the following records:

1. Maintain a record of all maintenance and repair to the control equipment.

Authority for Requirement: Iowa DNR Construction Permit 04-A-581

### Emission Point Characteristics

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 30

Stack Opening, (inches, dia.): 12x12

Exhaust Flow Rate (scfm): 2,500

Exhaust Temperature (°F): Ambient

Discharge Style: Vertical w/obstruction

Authority for Requirement: Iowa DNR Construction Permit 04-A-581

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required

### Monitoring Requirements

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: SV28**

### Associated Equipment

Associated Emission Unit ID Numbers: EU26  
Emissions Control Equipment ID Number: CS18  
Emissions Control Equipment Description: Bag house

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Emission Unit vented through this Emission Point: EU26  
Emission Unit Description: Fiber Receiver  
Raw Material/Fuel: Fiber  
Rated Capacity: 75 tons/hr

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 04-A-582  
567 IAC 23.3(2) "d"

<sup>(1)</sup> An exceedance of the indicator opacity of 'no visible emissions' will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedance continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>

Emission Limit(s): 0.11 lb/hr

Authority for Requirement; Iowa DNR Construction Permit 04-A-582

Pollutant: Particulate Matter, PM

Emission Limit(s): 0.11 lb/hr, 0.1 gr/dscf

Authority for Requirement; Iowa DNR Construction Permit 04-A-582  
567 IAC 23.3(2) "a"

#### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

#### **Operating Limits**

1. The control equipment shall be operated and maintained per the manufacturer's instructions and specifications



### Reporting and Record keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. The owner/operator shall maintain the following records:

1. Maintain a record of all maintenance and repair to the control equipment.

Authority for Requirement: Iowa DNR Construction Permit 04-A-582

### Emission Point Characteristics

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 30

Stack Opening, (inches, dia.): 12x12

Exhaust Flow Rate (scfm): 2,500

Exhaust Temperature (°F): Ambient

Discharge Style: Vertical w/ obstruction

Authority for Requirement: Iowa DNR Construction Permit 04-A-582

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

### Monitoring Requirements

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: SV29**

### Associated Equipment

Associated Emission Unit ID Numbers: EU 27

Emissions Control Equipment ID Number: CS19

Emissions Control Equipment Description: Pulse Jet Bag house

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Emission Unit vented through this Emission Point: EU 27

Emission Unit Description: Hammermill #1

Raw Material/Fuel: Endosperm

Rated Capacity: 22 tons/hr

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 04-A-583 S1  
567 IAC 23.3(2) "d"

<sup>(1)</sup> An exceedance of the indicator opacity of 'no visible emissions' will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedance continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>

Emission Limit(s): 0.39 lb/hr

Authority for Requirement; Iowa DNR Construction Permit 04-A-583 S1

Pollutant: Particulate Matter, PM

Emission Limit(s): 0.39 lb/hr, 0.1 gr/dscf

Authority for Requirement; Iowa DNR Construction Permit 04-A-583 S1  
567 IAC 23.3(2) "a"

#### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

#### **Operating Limits**

1. The control equipment shall be operated and maintained per the manufacturer's instructions and specifications

### Reporting and Record keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. The owner/operator shall maintain the following records:

1. Maintain a record of all maintenance and repair to the control equipment.

Authority for Requirement: Iowa DNR Construction Permit 04-A-583 S1

### Emission Point Characteristics

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 15

Stack Opening, (inches, dia.): 16x21

Exhaust Flow Rate (scfm): 9,000

Exhaust Temperature (°F): Ambient

Discharge Style: Vertical w/ obstruction

Authority for Requirement: Iowa DNR Construction Permit 04-A-583 S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

### Monitoring Requirements

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☒ No ☐

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

*Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.*

*Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.*

*Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.*

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: SV 30**

### Associated Equipment

Associated Emission Unit ID Numbers: EU 28  
Emissions Control Equipment ID Number: CS 20  
Emissions Control Equipment Description: Pulse Jet Baghouse

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Emission Unit vented through this Emission Point: EU 28  
Emission Unit Description: Hammermill # 2  
Raw Material/Fuel: Endosperm  
Rated Capacity: 22 tons/hr

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 04-A-584  
567 IAC 23.3(2) "d"

<sup>(1)</sup> An exceedance of the indicator opacity of 'no visible emissions' will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedance continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>

Emission Limit(s): 0.39 lb/hr

Authority for Requirement; Iowa DNR Construction Permit 04-A-584

Pollutant: Particulate Matter, PM

Emission Limit(s): 0.39 lb/hr, 0.1 gr/dscf

Authority for Requirement; Iowa DNR Construction Permit 04-A-584  
567 IAC 23.3(2) "a"

#### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

#### **Operating Limits**

1. The control equipment shall be operated and maintained per the manufacturer's instructions and specifications

### Reporting and Record keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. The owner/operator shall maintain the following records:

1. Maintain a record of all maintenance and repair to the control equipment.

Authority for Requirement: Iowa DNR Construction Permit 04-A-584

### Emission Point Characteristics

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 15

Stack Opening, (inches, dia.): 18x24

Exhaust Flow Rate (scfm): 9,000

Exhaust Temperature (°F): Ambient

Discharge Style: Vertical w/ obstruction

Authority for Requirement: Iowa DNR Construction Permit 04-A-584

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

### Monitoring Requirements

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☒ No ☐

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

*Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.*

*Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides*

*documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.*

*Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.*

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: SV 31**

### Associated Equipment

Associated Emission Unit ID Numbers: EU 29  
Emissions Control Equipment ID Number: CS21  
Emissions Control Equipment Description: Pulse Jet Baghouse

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Emission Unit vented through this Emission Point: EU 29  
Emission Unit Description: Pneumatic Flour Conveyor/ Receiver  
Raw Material/Fuel: Flour  
Rated Capacity: 74 tons/hr

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 04-A-979  
567 IAC 23.3(2) "d"

<sup>(1)</sup> An exceedance of the indicator opacity of 'no visible emissions' will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedance continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>

Emission Limit(s): 0.184 lb/hr

Authority for Requirement; Iowa DNR Construction Permit 04-A-979

Pollutant: Particulate Matter, PM

Emission Limit(s): 0.184 lb/hr, 0.1 gr/dscf

Authority for Requirement; Iowa DNR Construction Permit 04-A-979  
567 IAC 23.3(2) "a"

#### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

#### **Operating Limits**

1. The control equipment shall be operated and maintained per the manufacturer's instructions and specifications



### Reporting and Record keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. The owner/operator shall maintain the following records:

1. Maintain a record of all maintenance and repair to the control equipment.

Authority for Requirement: Iowa DNR Construction Permit 04-A-979

### Emission Point Characteristics

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 60

Stack Opening, (inches, dia.): 12

Exhaust Flow Rate (scfm): 4,300

Exhaust Temperature (°F): Ambient

Discharge Style: Vertical w/ obstruction

Authority for Requirement: Iowa DNR Construction Permit 04-A-979

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

### Monitoring Requirements

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: SV32**

### Associated Equipment

Associated Emission Unit ID Numbers: EU 31

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Emission Unit vented through this Emission Point: EU 31  
Emission Unit Description: Air Heater (In Corn Separation Building)  
Raw Material/Fuel: Natural Gas  
Rated Capacity: 6.63 MMBtu/hr

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40% <sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 04-A-580 S1  
567 IAC 23.3(2) "d"

<sup>(1)</sup>An exceedance of the indicator opacity of 'no visible emissions' will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedance continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter, PM<sub>10</sub>

Emission Limit(s): 0.13 lb/hr

Authority for Requirement; Iowa DNR Construction Permit 04-A-1006

Pollutant: Particulate Matter, PM

Emission Limit(s): 0.13 lb/hr, 0.1 gr/dscf

Authority for Requirement; Iowa DNR Construction Permit 04-A-1006  
567 IAC 23.3(2) "a"

Pollutant: Sulfur Dioxide, SO<sub>2</sub>

Emission Limit(s): 500 ppm

Authority for Requirement: Iowa DNR Construction Permit 04-A-1006  
567 IAC 23.3(3)

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): Indoor Source

Stack Opening, (inches, dia.): NA

Exhaust Flow Rate (scfm): 65,000

Exhaust Temperature (°F): Ambient

Discharge Style: NA

Authority for Requirement: Iowa DNR Construction Permit 04-A-1006

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Number: WFB**

Associated Equipment

Associated Emission Unit ID Numbers: EU WFB

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Emission Unit vented through this Emission Point: WFB

Emission Unit Description: Wet Fiber Building

Raw Material/Fuel: Wet Fiber

Rated Capacity: 25 tons/hr

**Applicable Requirements**

**Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

No Applicable Requirements at this time

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): Indoor Source

Stack Opening, (inches, dia.): NA

Exhaust Flow Rate (scfm): NA

Exhaust Temperature (°F): 100

Discharge Style: NA

Authority for Requirement: Iowa DNR Construction Permit 04-A-980

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Number: Cooling Tower**

Associated Equipment

Associated Emission Unit ID Number:

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Emission Unit vented through this Emission Point: CT

Emission Unit Description: Cooling Tower

Raw Material/Fuel: NA

Rated Capacity:

**Applicable Requirements**

**Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limit(s): 40%

Authority for Requirement: 567 IAC 23.3 (2) "d"

Pollutant: Particulate Matter, PM

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: 567 IAC 13.3(2) "a"

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: FUGITIVE 1**

### Associated Equipment

Associated Emission Unit ID Numbers: EU Fugitive 1

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Emission Unit vented through this Emission Point: EU Fugitive 1  
Emission Unit Description: Corn Receiving- Truck & Railcar  
Raw Material/Fuel: Corn  
Rated Capacity: None

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Fugitive Dust

Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.

Authority for requirement: 567 IAC 23.3(2)"c"

#### **Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: Fugitive 1 B**

### Associated Equipment

Associated Emission Unit ID Numbers: EU Fugitive 1 B

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Emission Unit vented through this Emission Point: EU Fugitive 1 B

Emission Unit Description: Haul Roads

Raw Material/Fuel: NA

Rated Capacity: NA

### **Applicable Requirements**

#### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Fugitive Dust

Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.

Authority for requirement: 567 IAC 23.3(2)"c"

#### **Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: Fugitive 2**

### Associated Equipment

Associated Emission Unit ID Numbers: EU Fugitive 2

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Emission Unit vented through this Emission Point: EU Fugitive 2

Emission Unit Description: Equipment Leaks

Raw Material/Fuel: NA

Rated Capacity: NA

## **Applicable Requirements**

### **Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

No Applicable Requirements at this time. VOC Emissions.

### **Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)



**Emission Point ID Number: FUGITIVE 3**

Associated Equipment

Associated Emission Unit ID Numbers: EU Fugitive 3

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Emission Unit vented through this Emission Point: EU Fugitive 3

Emission Unit Description: Ethanol Rail Loading

Raw Material/Fuel: NA

Rated Capacity: NA

**Applicable Requirements**

**Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

No Applicable Requirements at this time. VOC Emissions.

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: SV12**

### Associated Equipment

Associated Emission Unit ID Numbers: TK-001

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Emission Unit vented through this Emission Point: TK-001

Emission Unit Description: 190 Proof Ethanol Tank

Raw Material/Fuel: 190 Proof Ethanol

Rated Capacity: 180,000 gallons

## **Applicable Requirements**

### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

#### NSPS Applicability

Subpart VV, *Standards of Performance for Equipment leaks of VOC in the Synthetic Organic Chemicals Manufacturing industry*, applies to this source. See Appendix for the complete text of the Standard.

Authority for Requirement: 40 CFR 60 Subpart VV  
567 IAC 23.1 (2) "nn"

#### NSPS Applicability

Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction or Modification Commenced after July 23, 1984*, applies to this source. See Appendix for the complete text of the Standard.

#### Operating Limits

1. The owner or operator shall follow the applicable standards of Subpart Kb, 40 CFR 60.112b(a)(1), and inspect as required in 40 CFR 60.113b(a).

#### Reporting and Record keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The owner or operator shall keep records as required in 40 CFR 60.115b(a) and 40 CFR 60.116b.

2. The owner or operator shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. This record shall be kept for the life of the source.

Authority for Requirement: Iowa DNR Construction Permit 01-A-445

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 35

Stack Opening, (inches, dia.): 10

Exhaust Flow Rate (acfm): NA- Natural Vent

Exhaust Temperature (°F): Ambient

Discharge Style: Downwards

Authority for Requirement: Iowa DNR Construction Permit 01-A-445

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: SV13**

### Associated Equipment

Associated Emission Unit ID Numbers: TK-002

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Emission Unit vented through this Emission Point: TK-002  
Emission Unit Description: Unleaded Gasoline/ Denaturant Tank  
Raw Material/Fuel: Unleaded Gasoline (Denaturant)  
Rated Capacity: 60,000 gallons

## **Applicable Requirements**

### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

### NSPS Applicability

Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction or Modification Commenced after July 23, 1984*, applies to this source. See Appendix for the complete text of the Standard.

### Operating Limits

1. The tank shall store material with a maximum true vapor pressure, as defined in 40 CFR 60.111b, of less than 76.6 kPa.
2. The owner or operator shall follow the applicable standards of Subpart Kb, 40 CFR 60.112b(a)(1), and inspect as required in 40 CFR 60.113b(a).

### Reporting and Record keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The owner or operator keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel for the lifetime of the source.
2. The owner or operator shall keep records of the maximum true vapor pressure of each material stored in this tank.
3. The owner or operator shall keep records as required in 40 CFR 60.115b (a) and 40 CFR 60.116b.

Authority for Requirement: Iowa DNR Construction Permit 01-A-446 S1

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 24

Stack Opening, (inches, dia.): 10

Exhaust Flow Rate (acfm): Natural Ventilation

Exhaust Temperature (°F): Ambient

Discharge Style: Downwards

Authority for Requirement: Iowa DNR Construction Permit 01-A-446 S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: SV14**

### Associated Equipment

Associated Emission Unit ID Numbers: TK-003

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Emission Unit vented through this Emission Point: TK-003

Emission Unit Description: Denatured Ethanol Tank

Raw Material/Fuel: Denatured Ethanol

Rated Capacity: 1,000,000 gallons

## **Applicable Requirements**

### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

#### NSPS Applicability

Subpart VV, *Standards of Performance for Equipment leaks of VOC in the Synthetic Organic Chemicals Manufacturing industry*, applies to this source. Subpart VV is attached in Appendix. See Appendix for the complete text of the Standard.

Authority for Requirement: 40 CFR 60 Subpart VV  
567 IAC 23.1 (2) "nn"

#### NSPS Applicability

Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction or Modification Commenced after July 23, 1984*, applies to this source. See Appendix for the complete text of the Standard.

#### Operating Limits

1. The tank shall store material with a maximum true vapor pressure, as defined in 40 CFR 60.111b, of less than 76.6 kPa.
2. The owner or operator shall follow the applicable standards of Subpart Kb, 40 CFR 60.112b(a)(1), and inspect as required in 40 CFR 60.113b(a).

#### Reporting and Record keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The owner or operator keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel for the lifetime of the source.
2. The owner or operator shall keep records of the maximum true vapor pressure of each material stored in this tank.
3. The owner or operator shall keep records as required in 40 CFR 60.115b (a) and 40 CFR 60.116b.

Authority for Requirement: Iowa DNR Construction Permit 01-A-447 S1

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 51

Stack Opening, (inches, dia.): 10

Exhaust Flow Rate (acfm): Natural Ventilation

Exhaust Temperature (°F): Ambient

Discharge Style: Downwards

Authority for Requirement: Iowa DNR Construction Permit 01-A-447 S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: SV15**

### Associated Equipment

Associated Emission Unit ID Numbers: TK-004

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Emission Unit vented through this Emission Point: TK-004

Emission Unit Description: Denatured Ethanol Tank

Raw Material/Fuel: Denatured Ethanol

Rated Capacity: 1,000,000 gallons

## **Applicable Requirements**

### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

#### NSPS Applicability

Subpart VV, *Standards of Performance for Equipment leaks of VOC in the Synthetic Organic Chemicals Manufacturing industry*, applies to this source. See Appendix for the complete text of the Standard.

Authority for Requirement: 40 CFR 60 Subpart VV  
567 IAC 23.1 (2) "nn"

#### NSPS Applicability

Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction or Modification Commenced after July 23, 1984*, applies to this source. See Appendix for the complete text of the Standard.

#### Operating Limits

1. The tank shall store material with a maximum true vapor pressure, as defined in 40 CFR 60.111b, of less than 76.6 kPa.
2. The owner or operator shall follow the applicable standards of Subpart Kb, 40 CFR 60.112b(a)(1), and inspect as required in 40 CFR 60.113b(a).

#### Reporting and Record keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The owner or operator keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel for the lifetime of the source.



2. The owner or operator shall keep records of the maximum true vapor pressure of each material stored in this tank.
3. The owner or operator shall keep records as required in 40 CFR 60.115b (a) and 40 CFR 60.116b.

Authority for Requirement: Iowa DNR Construction Permit 01-A-448 S1

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 51

Stack Opening, (inches, dia.): 10

Exhaust Flow Rate (acfm): Natural Ventilation

Exhaust Temperature (°F): Ambient

Discharge Style: Downwards

Authority for Requirement: Iowa DNR Construction Permit 01-A-448 S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

## **Emission Point ID Number: SV17**

### Associated Equipment

Associated Emission Unit ID Numbers: TK-006

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Emission Unit vented through this Emission Point: TK-006

Emission Unit Description: 200 Proof Ethanol Tank

Raw Material/Fuel: 200 Proof Ethanol

Rated Capacity: 180,000 gallons

## **Applicable Requirements**

### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

#### NSPS Applicability

Subpart VV, *Standards of Performance for Equipment leaks of VOC in the Synthetic Organic Chemicals Manufacturing industry*, applies to this source. See Appendix for the complete text of the Standard.

Authority for Requirement: 40 CFR 60 Subpart VV  
567 IAC 23.1 (2) "nn"

#### NSPS Applicability

Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction or Modification Commenced after July 23, 1984*, applies to this source. See Appendix for the complete text of the Standard.

#### Operating Limits

1. The owner or operator shall follow the applicable standards of Subpart Kb, 40 CFR 60.112b(a)(1), and inspect as required in 40 CFR 60.113b(a).

#### Reporting and Record keeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The owner or operator shall keep records as required in 40 CFR 60.115b(a) and 40 CFR 60.116b.

2. The owner or operator shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. This record shall be kept for the life of the source.

Authority for Requirement: Iowa DNR Construction Permit 01-A-449

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 49

Stack Opening, (inches, dia.): 10

Exhaust Flow Rate (acfm): NA Natural Vent

Exhaust Temperature (°F): Ambient

Discharge Style: Downwards

Authority for Requirement: Iowa DNR Construction Permit 01-A-449

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required

**Monitoring Requirements**

*The owner/operator of this equipment shall comply with the monitoring requirements listed below.*

**Agency Approved Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Facility Maintained Operation & Maintenance Plan Required?** Yes ☐ No ☒

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

## IV. General Conditions

This permit is issued under the authority of the Iowa Code subsection 455B.133(8) and in accordance with 567 Iowa Administrative Code chapter 22.

### G1. Duty to Comply

1. The permittee must comply with all conditions of the Title V permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. *567 IAC 22.108(9)"a"*
2. Any compliance schedule shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based. *567 IAC 22.105(2)"h"(3)*
3. Where an applicable requirement of the Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions shall be enforceable by the administrator and are incorporated into this permit. *567 IAC 22.108(1)"b"*
4. Unless specified as either "state enforceable only" or "local program enforceable only", all terms and conditions in the permit, including provisions to limit a source's potential to emit, are enforceable by the administrator and citizens under the Act. *567 IAC 22.108(14)*
5. It shall not be a defense for a permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. *567 IAC 22.108(9)"b"*

### G2. Permit Expiration

1. Except as provided in 567 IAC 22.104, the expiration of this permit terminates the permittee's right to operate unless a timely and complete application has been submitted for renewal. Any testing required for renewal shall be completed before the application is submitted. *567 IAC 22.116(2)*
2. To be considered timely, the owner, operator, or designated representative (where applicable) of each source required to obtain a Title V permit shall present or mail the Air Quality Bureau, Iowa Department of Natural Resources, Air Quality Bureau, 7900 Hickman Rd, Suite #1, Urbandale, Iowa 50322, two copies (three if your facility is located in Linn or Polk county) of a complete permit application, at least 6 months but not more than 18 months prior to the date of permit expiration. An additional copy must also be sent to EPA Region VII, Attention: Chief of Air Permits, 901 N. 5th St., Kansas City, KS 66101. The application must include all emission points, emission units, air pollution control equipment, and monitoring devices at the facility. All emissions generating activities, including fugitive emissions, must be included. The definition of a complete application is as indicated in 567 IAC 22.105(2). *567 IAC 22.105*

### G3. Certification Requirement for Title V Related Documents

Any application, report, compliance certification or other document submitted pursuant to this permit shall contain certification by a responsible official of truth, accuracy, and completeness. All certifications shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. *567 IAC 22.107(4)*

### G4. Annual Compliance Certification

By March 31 of each year, the permittee shall submit compliance certifications for the previous calendar year. The certifications shall include descriptions of means to monitor the compliance status of all emissions sources including emissions limitations, standards, and work practices in accordance with applicable requirements. The certification for a source shall include the identification of each term or condition of the permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with all applicable department rules. For sources determined not to be in compliance at the time of compliance certification, a compliance schedule shall be submitted which provides for periodic progress reports, dates for achieving activities, milestones, and an explanation of why any dates were missed and preventive or corrective measures. The compliance certification shall be submitted to the administrator, director, and the appropriate DNR Field office. 567 IAC 22.108 (15)"e"

#### **G5. Semi-Annual Monitoring Report**

By March 31 and September 30 of each year, the permittee shall submit a report of any monitoring required under this permit for the 6 month periods of July 1 to December 31 and January 1 to June 30, respectively. All instances of deviations from permit requirements must be clearly identified in these reports, and the report must be signed by a responsible official, consistent with 567 IAC 22.107(4). The semi-annual monitoring report shall be submitted to the director and the appropriate DNR Field office. 567 IAC 22.108 (5)

#### **G6. Annual Fee**

1. The permittee is required under subrule 567 IAC 22.106 to pay an annual fee based on the total tons of actual emissions of each regulated air pollutant. Beginning July 1, 1996, Title V operating permit fees will be paid on July 1 of each year. The fee shall be based on emissions for the previous calendar year.
2. The fee amount shall be calculated based on the first 4,000 tons of each regulated air pollutant emitted each year. The fee to be charged per ton of pollutant will be available from the department by June 1 of each year. The Responsible Official will be advised of any change in the annual fee per ton of pollutant.
3. The following forms shall be submitted annually by March 31 documenting actual emissions for the previous calendar year.
  - a. Form 1.0 "Facility Identification";
  - b. Form 4.0 "Emissions unit-actual operations and emissions" for each emission unit;
  - c. Form 5.0 "Title V annual emissions summary/fee"; and
  - d. Part 3 "Application certification."
4. The fee shall be submitted annually by July 1. The fee shall be submitted with the following forms:
  - a. Form 1.0 "Facility Identification";
  - b. Form 5.0 "Title V annual emissions summary/fee";
  - c. Part 3 "Application certification."
5. If there are any changes to the emission calculation form, the department shall make revised forms available to the public by January 1. If revised forms are not available by January 1, forms from the previous year may be used and the year of emissions

documented changed. The department shall calculate the total statewide Title V emissions for the prior calendar year and make this information available to the public no later than April 30 of each year.

6. Phase I acid rain affected units under section 404 of the Act shall not be required to pay a fee for emissions which occur during the years 1993 through 1999 inclusive.

7. The fee for a portable emissions unit or stationary source which operates both in Iowa and out of state shall be calculated only for emissions from the source while operating in Iowa.

8. Failure to pay the appropriate Title V fee represents cause for revocation of the Title V permit as indicated in 567 IAC 22.115(1)"d".

**G7. Inspection of Premises, Records, Equipment, Methods and Discharges**

Upon presentation of proper credentials and any other documents as may be required by law, the permittee shall allow the director or the director's authorized representative to:

1. Enter upon the permittee's premises where a Title V source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
4. Sample or monitor, at reasonable times, substances or parameters for the purpose of ensuring compliance with the permit or other applicable requirements. *567 IAC 22.108 (15)"b"*

**G8. Duty to Provide Information**

The permittee shall furnish to the director, within a reasonable time, any information that the director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the director copies of records required to be kept by the permit, or for information claimed to be confidential, the permittee shall furnish such records directly to the administrator of EPA along with a claim of confidentiality. *567 IAC 22.108 (9)"e"*

**G9. General Maintenance and Repair Duties**

The owner or operator of any air emission source or control equipment shall:

1. Maintain and operate the equipment or control equipment at all times in a manner consistent with good practice for minimizing emissions.
2. Remedy any cause of excess emissions in an expeditious manner.
3. Minimize the amount and duration of any excess emission to the maximum extent possible during periods of such emissions. These measures may include but not be limited to the use of clean fuels, production cutbacks, or the use of alternate process units or, in the case of utilities, purchase of electrical power until repairs are completed.
4. Schedule, at a minimum, routine maintenance of equipment or control equipment during periods of process shutdowns to the maximum extent possible. *567 IAC 24.2(1)*

**G10. Recordkeeping Requirements for Compliance Monitoring**

1. In addition to any source specific recordkeeping requirements contained in this permit, the permittee shall maintain the following compliance monitoring records, where applicable:

- a. The date, place and time of sampling or measurements
- b. The date the analyses were performed.
- c. The company or entity that performed the analyses.
- d. The analytical techniques or methods used.
- e. The results of such analyses; and
- f. The operating conditions as existing at the time of sampling or measurement.
- g. The records of quality assurance for continuous compliance monitoring systems (including but not limited to quality control activities, audits and calibration drifts.)

2. The permittee shall retain records of all required compliance monitoring data and support information for a period of at least 5 years from the date of compliance monitoring sample, measurement report or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous compliance monitoring, and copies of all reports required by the permit.

3. For any source which in its application identified reasonably anticipated alternative operating scenarios, the permittee shall:

a. Comply with all terms and conditions of this permit specific to each alternative scenario.

b. Maintain a log at the permitted facility of the scenario under which it is operating.

c. Consider the permit shield, if provided in this permit, to extend to all terms and conditions under each operating scenario. *567 IAC 22.108(4), 567 IAC 22.108(12)*

#### **G11. Evidence used in establishing that a violation has or is occurring.**

Notwithstanding any other provisions of these rules, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any provisions herein.

1. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at a source:

a. A monitoring method approved for the source and incorporated in an operating permit pursuant to 567 Chapter 22;

b. Compliance test methods specified in 567 Chapter 25; or

c. Testing or monitoring methods approved for the source in a construction permit issued pursuant to 567 Chapter 22.

2. The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:

a. Any monitoring or testing methods provided in these rules; or

b. Other testing, monitoring, or information gathering methods that produce information comparable to that produced by any method in subrule 21.5(1) or this subrule. *567 IAC 21.5(1)-567 IAC 21.5(2)*

#### **G12. Prevention of Accidental Release: Risk Management Plan Notification and Compliance Certification**

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Act, the permittee shall notify the department of this requirement. The plan shall be filed with all appropriate authorities by the deadline specified by EPA. A certification that this risk management plan is being properly implemented shall be included in the annual compliance certification of this permit. *567 IAC 22.108(6)*

#### **G13. Hazardous Release**

The permittee must report any situation involving the actual, imminent, or probable release of a hazardous substance into the atmosphere which, because of the quantity, strength and toxicity of the substance, creates an immediate or potential danger to the public health, safety or to the environment. A verbal report shall be made to the department at (515) 281-8694 and to the local police department or the office of the



sheriff of the affected county as soon as possible but not later than six hours after the discovery or onset of the condition. This verbal report must be followed up with a written report as indicated in 567 IAC 131.2(2). *567 IAC Chapter 131-State Only*

#### **G14. Excess Emissions and Excess Emissions Reporting Requirements**

1. Excess Emissions. Excess emission during a period of startup, shutdown, or cleaning of control equipment is not a violation of the emission standard if the startup, shutdown or cleaning is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions. Cleaning of control equipment which does not require the shutdown of the process equipment shall be limited to one six-minute period per one-hour period. An incident of excess emission (other than an incident during startup, shutdown or cleaning of control equipment) is a violation. If the owner or operator of a source maintains that the incident of excess emission was due to a malfunction, the owner or operator must show that the conditions which caused the incident of excess emission were not preventable by reasonable maintenance and control measures. Determination of any subsequent enforcement action will be made following review of this report. If excess emissions are occurring, either the control equipment causing the excess emission shall be repaired in an expeditious manner or the process generating the emissions shall be shutdown within a reasonable period of time. An expeditious manner is the time necessary to determine the cause of the excess emissions and to correct it within a reasonable period of time. A reasonable period of time is eight hours plus the period of time required to shut down the process without damaging the process equipment or control equipment. In the case of an electric utility, a reasonable period of time is eight hours plus the period of time until comparable generating capacity is available to meet consumer demand with the affected unit out of service, unless, the director shall, upon investigation, reasonably determine that continued operation constitutes an unjustifiable environmental hazard and issue an order that such operation is not in the public interest and require a process shutdown to commence immediately.

#### **2. Excess Emissions Reporting**

a. Oral Reporting of Excess Emissions. An incident of excess emission (other than an incident of excess emission during a period of startup, shutdown, or cleaning) shall be reported to the appropriate field office of the department within eight hours of, or at the start of the first working day following the onset of the incident. The reporting exemption for an incident of excess emission during startup, shutdown or cleaning does not relieve the owner or operator of a source with continuous monitoring equipment of the obligation of submitting reports required in 567-subrule 25.1(6). An oral report of excess emission is not required for a source with operational continuous monitoring equipment (as specified in 567-subrule 25.1(1) ) if the incident of excess emission continues for less than 30 minutes and does not exceed the applicable emission standard by more than 10 percent or the applicable visible emission standard by more than 10 percent opacity. The oral report may be made in person or by telephone and shall include as a minimum the following:

- i. The identity of the equipment or source operation from which the excess emission originated and the associated stack or emission point.
- ii. The estimated quantity of the excess emission.
- iii. The time and expected duration of the excess emission.

- iv. The cause of the excess emission.
    - v. The steps being taken to remedy the excess emission.
    - vi. The steps being taken to limit the excess emission in the interim period.
  - b. Written Reporting of Excess Emissions. A written report of an incident of excess emission shall be submitted as a follow-up to all required oral reports to the department within seven days of the onset of the upset condition, and shall include as a minimum the following:
    - i. The identity of the equipment or source operation point from which the excess emission originated and the associated stack or emission point.
    - ii. The estimated quantity of the excess emission.
    - iii. The time and duration of the excess emission.
    - iv. The cause of the excess emission.
    - v. The steps that were taken to remedy and to prevent the recurrence of the incident of excess emission.
    - vi. The steps that were taken to limit the excess emission.
    - vii. If the owner claims that the excess emission was due to malfunction, documentation to support this claim. *567 IAC 24.1(1)-567 IAC 24.1(4)*
- 3. Emergency Defense for Excess Emissions. For the purposes of this permit, an “emergency” means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include non-compliance, to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation or operator error. An emergency constitutes an affirmative defense to an action brought for non-compliance with technology based limitations if it can be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that:
  - a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
  - b. The facility at the time was being properly operated;
  - c. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements of the permit; and
  - d. The permittee submitted notice of the emergency to the director by certified mail within two working days of the time when the emissions limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. *567 IAC 22.108(16)*

#### **G15. Permit Deviation Reporting Requirements**

A deviation is any failure to meet a term, condition or applicable requirement in the permit. Reporting requirements for deviations that result in a hazardous release or excess emissions have been indicated above (see G13 and G14). Unless more frequent deviation reporting is specified in the permit, any other deviation shall be documented in the semi-annual monitoring report and the annual compliance certification (see G4 and G5). *567 IAC 22.108(5)"b"*

#### **G16. Notification Requirements for Sources That Become Subject to NSPS and NESHAP Regulations**

During the term of this permit, the permittee must notify the department of any source that becomes subject to a standard or other requirement under 567-subrule 23.1(2) (standards of performance of new stationary sources) or section 111 of the Act; or 567-subrule 23.1(3) (emissions standards for hazardous air pollutants), 567-subrule 23.1(4) (emission standards for hazardous air pollutants for source categories) or section 112 of the Act. This notification shall be submitted in writing to the department pursuant to the notification requirements in 40 CFR Section 60.7, 40 CFR Section 61.07, and/or 40 CFR Section 63.9. *567 IAC 23.1(2), 567 IAC 23.1(3), 567 IAC 23.1(4)*

#### **G17. Requirements for Making Changes to Emission Sources That Do Not Require Title V Permit Modification**

1. Off Permit Changes to a Source. Pursuant to section 502(b)(10) of the CAAA, the permittee may make changes to this installation/facility without revising this permit if:

- a. The changes are not major modifications under any provision of any program required by section 110 of the Act, modifications under section 111 of the act, modifications under section 112 of the act, or major modifications as defined in 567 IAC Chapter 22.
- b. The changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in terms of total emissions);
- c. The changes are not modifications under any provisions of Title I of the Act and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or as total emissions);
- d. The changes are not subject to any requirement under Title IV of the Act.
- e. The changes comply with all applicable requirements.
- f. For such a change, the permitted source provides to the department and the administrator by certified mail, at least 30 days in advance of the proposed change, a written notification, including the following, which must be attached to the permit by the source, the department and the administrator:
  - i. A brief description of the change within the permitted facility,
  - ii. The date on which the change will occur,
  - iii. Any change in emission as a result of that change,
  - iv. The pollutants emitted subject to the emissions trade
  - v. If the emissions trading provisions of the state implementation plan are invoked, then Title V permit requirements with which the source shall comply; a description of how the emissions increases and decreases will comply with the terms and conditions of the Title V permit.
  - vi. A description of the trading of emissions increases and decreases for the purpose of complying with a federally enforceable emissions cap as specified in and in compliance with the Title V permit; and
  - vii. Any permit term or condition no longer applicable as a result of the change.

*567 IAC 22.110(1)*

2. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring

(including test methods), record keeping, reporting, or compliance certification requirements. *567 IAC 22.110(2)*

3. Notwithstanding any other part of this rule, the director may, upon review of a notice, require a stationary source to apply for a Title V permit if the change does not meet the requirements of subrule 22.110(1). *567 IAC 22.110(3)*

4. The permit shield provided in subrule 22.108(18) shall not apply to any change made pursuant to this rule. Compliance with the permit requirements that the source will meet using the emissions trade shall be determined according to requirements of the state implementation plan authorizing the emissions trade. *567 IAC 22.110(4)*

5. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes, for changes that are provided for in this permit. *567 IAC 22.108(11)*

#### **G18. Duty to Modify a Title V Permit**

##### **1. Administrative Amendment.**

a. An administrative permit amendment is a permit revision that is required to do any of the following:

- i. Correct typographical errors
- ii. Identify a change in the name, address, or telephone number of any person identified in the permit, or provides a similar minor administrative change at the source;
- iii. Require more frequent monitoring or reporting by the permittee; or
- iv. Allow for a change in ownership or operational control of a source where the director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittee has been submitted to the director.

b. The permittee may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request. The request shall be submitted to the director.

c. Administrative amendments to portions of permits containing provisions pursuant to Title IV of the Act shall be governed by regulations promulgated by the administrator under Title IV of the Act.

##### **2. Minor Permit Modification.**

a. Minor permit modification procedures may be used only for those permit modifications that do any of the following:

- i. Do not violate any applicable requirements
- ii. Do not involve significant changes to existing monitoring, reporting or recordkeeping requirements in the Title V permit.
- iii. Do not require or change a case by case determination of an emission limitation or other standard, or increment analysis.
- iv. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed in order to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include any federally enforceable emissions caps which the source would assume to avoid classification as a modification under any provision under Title I

- of the Act; and an alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Act.;
  - v. Are not modifications under any provision of Title I of the Act; and
  - vi. Are not required to be processed as significant modification.
- b. An application for minor permit revision shall be on the minor Title V modification application form and shall include at least the following:
- i. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs.
  - ii. The permittee's suggested draft permit
  - iii. Certification by a responsible official, pursuant to 567 IAC 22.107(4), that the proposed modification meets the criteria for use of a minor permit modification procedures and a request that such procedures be used; and
  - iv. Completed forms to enable the department to notify the administrator and the affected states as required by 567 IAC 22.107(7).
- c. The permittee may make the change proposed in its minor permit modification application immediately after it files the application. After the permittee makes this change and until the director takes any of the actions specified in 567 IAC 22.112(4) "a" to "c", the permittee must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time, the permittee need not comply with the existing permit terms and conditions it seeks to modify. However, if the permittee fails to comply with its proposed permit terms and conditions during this time period, existing permit term terms and conditions it seeks to modify may subject the facility to enforcement action.

3. Significant Permit Modification. Significant Title V modification procedures shall be used for applications requesting Title V permit modifications that do not qualify as minor Title V modifications or as administrative amendments. These include but are not limited to all significant changes in monitoring permit terms, every relaxation of reporting or recordkeeping permit terms, and any change in the method of measuring compliance with existing requirements. Significant Title V modifications shall meet all requirements of 567 IAC Chapter 22, including those for applications, public participation, review by affected states, and review by the administrator, and those requirements that apply to Title V issuance and renewal. *567 IAC 22.111-567 IAC 22.113* The permittee shall submit an application for a significant permit modification not later than three months after commencing operation of the changed source unless the existing Title V permit would prohibit such construction or change in operation, in which event the operation of the changed source may not commence until the department revises the permit. *567 IAC 22.105(1)"a"(4)*

#### **G19. Duty to Obtain Construction Permits**

Unless exempted under 567 IAC 22.1(2), the permittee must not construct, install, reconstruct, or alter any equipment, control equipment or anaerobic lagoon without first obtaining a construction permit, conditional permit, or permit pursuant to 567 IAC 22.8, or permits required pursuant to 567 IAC 22.4 and 567 IAC 22.5. Such permits shall be obtained prior to the initiation of construction, installation or alteration of any portion of the stationary source. *567 IAC 22.1(1)*

**G20. Asbestos**

The permittee shall comply with 567 IAC 23.1(3)"a", and 567 IAC 23.2(3)"g" when activities involve asbestos mills, surfacing of roadways, manufacturing operations, fabricating, insulating, waste disposal, spraying applications, demolition and renovation operations, training fires and controlled burning of a demolished building. 567 IAC 23.1(3)"a", and 567 IAC 23.2

**G21. Open Burning**

The permittee is prohibited from conducting open burning, except as may be allowed by 567 IAC 23.2. 567 IAC 23.2 except 23.2(3)"h"; 567 IAC 23.2(3)"h" - State Only

**G22. Acid Rain (Title IV) Emissions Allowances**

The permittee shall not exceed any allowances that it holds under Title IV of the Act or the regulations promulgated there under. Annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide held by the owners and operators of the unit or the designated representative of the owners and operators is prohibited.

Exceedences of applicable emission rates are prohibited. "Held" in this context refers to both those allowances assigned to the owners and operators by USEPA, and those allowances supplementally acquired by the owners and operators. The use of any allowance prior to the year for which it was allocated is prohibited. Contravention of any other provision of the permit is prohibited. 567 IAC 22.108(7)

**G23. Stratospheric Ozone and Climate Protection (Title VI) Requirements**

1. The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
  - a. All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to § 82.106.
  - b. The placement of the required warning statement must comply with the requirements pursuant to § 82.108.
  - c. The form of the label bearing the required warning statement must comply with the requirements pursuant to § 82.110.
  - d. No person may modify, remove, or interfere with the required warning statement except as described in § 82.112.
2. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for MVACs in Subpart B:
  - a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156.
  - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158.
  - c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161.
  - d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with reporting and recordkeeping requirements pursuant to § 82.166. ("MVAC-like appliance" as defined at § 82.152)
  - e. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to § 82.156.

- f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.
- 3. If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.
- 4. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant,
- 5. The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *40 CFR part 82*

#### **G24. Permit Reopenings**

- 1. This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. *567 IAC 22.108(9)"c"*
- 2. Additional applicable requirements under the Act become applicable to a major part 70 source with a remaining permit term of 3 or more years. Revisions shall be made as expeditiously as practicable, but not later than 18 months after the promulgation of such standards and regulations.
  - a. Reopening and revision on this ground is not required if the permit has a remaining term of less than three years;
  - b. Reopening and revision on this ground is not required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to 40 CFR 70.4(b)(10)(i) or (ii) as amended to June 25, 1993.
  - c. Reopening and revision on this ground is not required if the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. *567 IAC 22.108(17)"a", 567 IAC 22.108(17)"b"*
- 3. A permit shall be reopened and revised under any of the following circumstances:
  - a. The department receives notice that the administrator has granted a petition for disapproval of a permit pursuant to 40 CFR 70.8(d) as amended to June 25, 1993, provided that the reopening may be stayed pending judicial review of that determination;
  - b. The department or the administrator determines that the Title V permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Title V permit;
  - c. Additional applicable requirements under the Act become applicable to a Title

V source, provided that the reopening on this ground is not required if the permit has a remaining term of less than three years, the effective date of the requirement is later than the date on which the permit is due to expire, or the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. Such a reopening shall be complete not later than 18 months after promulgation of the applicable requirement.

d. Additional requirements, including excess emissions requirements, become applicable to a Title IV affected source under the acid rain program. Upon approval by the administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.

e. The department or the administrator determines that the permit must be revised or revoked to ensure compliance by the source with the applicable requirements.

*567 IAC 22.114(1)*

4. Proceedings to reopen and reissue a Title V permit shall follow the procedures applicable to initial permit issuance and shall effect only those parts of the permit for which cause to reopen exists. *567 IAC 22.114(2)*

#### **G25. Permit Shield**

1. The director may expressly include in a Title V permit a provision stating that

compliance with the conditions of the permit shall be deemed compliance with any

applicable requirements as of the date of permit issuance, provided that:

a. Such applicable requirements are included and are specifically identified in the permit; or

b. The director, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.

2. A Title V permit that does not expressly state that a permit shield exists shall be presumed not to provide such a shield.

3. A permit shield shall not alter or affect the following:

a. The provisions of Section 303 of the Act (emergency orders), including the authority of the administrator under that section;

b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act;

d. The ability of the department or the administrator to obtain information from the facility pursuant to Section 114 of the Act. *567 IAC 22.108 (18)*

#### **G26. Severability**

The provisions of this permit are severable and if any provision or application of any provision is found to be invalid by this department or a court of law, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected by such finding. *567 IAC 22.108 (8)*

#### **G27. Property Rights**



The permit does not convey any property rights of any sort, or any exclusive privilege.  
*567 IAC 22.108 (9)"d"*

**G28. Transferability**

This permit is not transferable from one source to another. If title to the facility or any part of it is transferred, an administrative amendment to the permit must be sought to determine transferability of the permit. *567 IAC 22.111 (1)"d"*

**G29. Disclaimer**

No review has been undertaken on the engineering aspects of the equipment or control equipment other than the potential of that equipment for reducing air contaminant emissions. *567 IAC 22.3(3)"c"*

**G30. Notification and Reporting Requirements for Stack Tests or Monitor Certification**

The permittee shall notify the department's stack test contact in writing not less than 30 days before a required test or performance evaluation of a continuous emission monitor is performed to determine compliance with an applicable requirement. For the department to consider test results a valid demonstration of compliance with applicable rules or a permit condition, such notice shall be given. Such notice shall include the time, the place, the name of the person who will conduct the test and other information as required by the department. Unless specifically waived by the department's stack test contact, a pretest meeting shall be held not later than 15 days prior to conducting the compliance demonstration. The department may accept a testing protocol in lieu of a pretest meeting. A representative of the department shall be permitted to witness the tests. Results of the tests shall be submitted in writing to the department's stack test contact in the form of a comprehensive report within six weeks of the completion of the testing. Compliance tests conducted pursuant to this permit shall be conducted with the source operating in a normal manner at its maximum continuous output as rated by the equipment manufacturer, or the rate specified by the owner as the maximum production rate at which the source shall be operated. In cases where compliance is to be demonstrated at less than the maximum continuous output as rated by the equipment manufacturer, and it is the owner's intent to limit the capacity to that rating, the owner may submit evidence to the department that the source has been physically altered so that capacity cannot be exceeded, or the department may require additional testing, continuous monitoring, reports of operating levels, or any other information deemed necessary by the department to determine whether such source is in compliance.

Stack test notifications, reports and correspondence shall be sent to:

Stack Test Review Coordinator  
Iowa DNR, Air Quality Bureau  
7900 Hickman Road, Suite #1  
Urbandale, IA 50322  
(515) 242-6001

Within Polk and Linn Counties, stack test notifications, reports and correspondence shall also be directed to the supervisor of the respective county air pollution program.  
*567 IAC 25.1(7)"a", 567 IAC 25.1(9)*

**G31. Prevention of Air Pollution Emergency Episodes**

The permittee shall comply with the provisions of 567 IAC Chapter 26 in the prevention of excessive build-up of air contaminants during air pollution episodes, thereby preventing the occurrence of an emergency due to the effects of these contaminants on the health of persons. *567 IAC 26.1(1)*

**G32. Contacts List**

The current address and phone number for reports and notifications to the EPA administrator is:

Chief of Air Permits  
EPA Region 7  
Air Permits and Compliance Branch  
901 N. 5<sup>th</sup> Street  
Kansas City, KS 66101  
(913) 551-7020

The current address and phone number for reports and notifications to the department or the Director is:

Chief, Air Quality Bureau  
Iowa Department of Natural Resources  
7900 Hickman Road, Suite #1  
Urbandale, IA 50322  
(515) 242-5100

Reports or notifications to the DNR Field Offices or local programs shall be directed to the supervisor at the appropriate field office or local program. Current addresses and phone numbers are:

**Field Office 1**  
909 West Main – Suite 4  
Manchester, IA 52057  
(563) 927-264

**Field Office 2**  
P.O. Box 1443  
2300-15th St., SW  
Mason City, IA 50401  
(641) 424-4073

**Field Office 3**  
1900 N. Grand Ave.  
Spencer, IA 51301  
(712) 262-4177

**Field Office 4**  
1401 Sunnyside Lane  
Atlantic, IA 50022  
(712) 243-1934

**Field Office 5**  
401 SW 7<sup>th</sup> Street, Suite I  
Des Moines, IA 50309  
(515) 725-0268

**Field Office 6**  
1023 West Madison Street  
Washington, IA 52353-1623  
(319) 653-2135

**Polk County Public Works Dept.**  
Air Quality Division  
5885 NE 14th St.  
Des Moines, IA 50313  
(515) 286-3351

**Linn County Public Health Dept.**  
Air Pollution Control Division  
501 13th St., NW  
Cedar Rapids, IA 52405  
(319) 892-6000

## **APPENDIX**

- A. Reduced Recordkeeping under NSPS Subpart DC**
- B. 40 CFR 60 Subpart A- General Provisions**
- C. 40 CFR 60 Subpart VV- Standards of Performance for Equipment leaks in Synthetic Chemicals manufacturing industry.**
- D. 40 CFR 60 Subpart Dc- Standards of Performance for Small Industrial-Commercial – Institutional Steam Generating Units.**
- E. 40 CFR 60 Subpart Kb- Standards of Performance for Volatile Organic Liquid storage vessels**



Jon  
Knodel/ARTD/R7/USEPA/US  
03/07/2006 10:38 AM

To Dave Phelps <Dave.Phelps@dnr.state.ia.us>  
cc DPeter@kdhe.state.ks.us, R7 ARTD-APCO, Peter  
Fulweiler/ENSV/R7/USEPA/US@EPA, Clint  
Sperry/ENSV/R7/USEPA/US@EPA, Paul  
bcc  
Subject Reduced Recordkeeping under NSPS Subpart Dc 

Dave and others,

Yes! We can finally stop making the site-specific reduced recordkeeping approvals for NSPS Subpart Dc units. The recently revised rules, in 40 CFR 60.48c(g), now allow the owner or operator to maintain its fuel usage on a monthly basis for units firing natural gas, "very low sulfur oil" or other gaseous or liquid fuels with a potential SO<sub>2</sub> emission rate of 0.32 #/mmBtu or less. Units firing oil will still have to maintain records on fuel vendor certifications and provide as part of their semi-annual reports, but these procedures are outlined in the rule and don't require any special review on the part of implementing agencies.

The one thing we lose (at least in Region 7) by no longer doing site specific approvals is the annual reporting for natural-gas-only units. Since these sources aren't required by rule to install a continuous monitoring system (CMS), they have no obligations under 40 CFR 60.7 to report. But, in exchange for the more liberal recordkeeping frequency, we still wanted them to verify at least once a year that they burned only natural gas. If we don't issue site specific approvals, there is no way to establish this requirement directly. For any prior EPA Region 7 approval containing annual reporting for natural-gas-only units, we now view that obligation as moot. You will want to consider whether you want to retain this obligation as part of your construction and operating permit programs. Or, maybe you just want to verify natural-gas-only operation in conjunction with the annual compliance certifications or emission inventories.

I anticipate we may get some questions about the transition from the old rule to the new. Since the revised rule does not establish a cut-off date for the monthly recordkeeping requirement, it appears it is meant to apply to all Subpart Dc units irrespective of when they are constructed. As a result, we no longer intend to process any requests for alternative recordkeeping for units eligible for the monthly frequency. We have several requests in the pipeline here in Region 7 and will notify the applicants that they should just follow the new rule. We may also get requests from sources asking to be relieved of their prior obligations under a reduced recordkeeping approval. At this time, given other priorities, Region 7 does not plan to do a mass withdrawal, process site specific withdrawals or make any other revisions to reduced recordkeeping plans we have already approved. Instead, we will advise anyone holding a Region 7 approval that have two options 1) continue to follow their approval, or 2) follow the rule alone. For states like Iowa and Kansas, where you implement these obligations directly through your construction permits, we'll leave to your discretion how best to resolve any remaining discrepancies between the rule and your permits. For example, you may want to exercise enforcement discretion with your permits until you have a chance to update during the next round of Title V or FESOP (and corresponding fix to your NSR permits) renewals. In Missouri and Nebraska, where we issued the approvals and the states incorporated into permits, we will now defer to the rule alone and allow you to exercise discretion with any permits that contain the previous reduced recordkeeping obligations. Like in Iowa and Kansas, any conflicting permits should be corrected at the next permit renewal.

You may want to circulate this message to your local agencies or other permitting staff that have had to deal with these issues in the past. I will also post on our Region 7 Policy & Guidance website < <http://www.epa.gov/region07/programs/artd/air/policy/policy.htm> > to advise the Region 7 Subpart Dc affected community how to proceed with any past or present reduced recordkeeping request.

If you have any questions, please let me know.

Jon Knodel  
EPA Region 7  
Air Permitting and Compliance Branch (ARTD/APCO-2119F)  
901 N. 5th Street  
Kansas City, Kansas 66101  
Phone: 913-551-7622  
Fax: 913-551-9622 (or 7844)  
E-mail: knodel.jon@epa.gov

For more information about the Region 7 Air Program, see....  
<http://www.epa.gov/region07/programs/artd/air/air.htm>

Dave Phelps <Dave.Phelps@dnr.state.ia.us>



**Dave Phelps**  
<Dave.Phelps@dnr.state.ia.us>

03/07/2006 08:47 AM

To Jon Knodel/ARTD/R7/USEPA/US@EPA, Robert  
Webber/ARTD/R7/USEPA/US@EPA

cc

Subject Changes to subpart Dc

Now that Dc is going to monthly reporting (and is final) can we stop sending the requests for monthly recordkeeping for Dc boilers down to you guys? Seems rather redundant now. Thanks. Dave

**Updated 6/7/06**

**[Source: Federal Register dated 7/1/98, Federal Register 5/8/98, 2/12/99, 10/17/00, 6/28/02, 6/1/06]**

## **Subpart A-General Provisions for 40 CFR 60**

### **40 CFR 60.1 Applicability.**

(a) Except as provided in 40 CFR 60 subparts B and C, the provisions of this part apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication in this part of any standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility.

(b) Any new or revised standard of performance promulgated pursuant to section 111(b) of the Act shall apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication in this part of such new or revised standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility.

(c) In addition to complying with the provisions of this part, the owner or operator of an affected facility may be required to obtain an operating permit issued to stationary sources by an authorized State air pollution control agency or by the Administrator of the U.S. Environmental Protection Agency (EPA) pursuant to Title V of the Clean Air Act (CAA) as amended November 15, 1990 (42 U.S.C. 7661).  
[40 CFR 60.1(a), (b) and (c)]

### **40 CFR 60.5 Determination of construction or modification.**

(a) When requested to do so by an owner or operator, the Administrator will make a determination of whether action taken or intended to be taken by such owner or operator constitutes construction (including reconstruction) or modification or the commencement thereof within the meaning of this part.

(b) The Administrator will respond to any request for a determination under paragraph (a) of this section within 30 days of receipt of such request.

### **§ 60.6 Review of plans.**

(a) When requested to do so by an owner or operator, the Administrator will review plans for construction or modification for the purpose of providing technical advice to the owner or operator.

(b)(1) A separate request shall be submitted for each construction or modification project.

(2) Each request shall identify the location of such project, and be accompanied by technical information describing the proposed nature, size, design, and method of operation of each affected facility involved in such project, including information on any equipment to be used for measurement or control of emissions.

(c) Neither a request for plans review nor advice furnished by the Administrator in response to such request shall (1) relieve an owner or operator of legal responsibility for compliance with any provision of this part or of any applicable State or local requirement, or (2) prevent the Administrator from implementing or enforcing any provision of this part or taking any other action authorized by the Act.

### **40 CFR 60.7 Notification and record keeping.**

(a) Any owner or operator subject to the provisions of this part shall furnish the Administrator written notification or, if acceptable to both the Administrator and the owner or operator of a source, electronic notification, as follows:

1. A notification of the date construction (or reconstruction as defined under § 60.15) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.

2. Reserved.

3. A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.

4. A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in § 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice.

5. A notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with 40 CFR 60.13(c). Notification shall be postmarked not less than 30 days prior to such date.

6. A notification of the anticipated date for conducting the opacity observations required by 40 CFR 60.11(e)(1) of this part. The notification shall also include, if appropriate, a request for the Administrator to provide a visible emissions reader during a performance test. The notification shall be postmarked not less than 30 days prior to such date.

7. A notification that continuous opacity monitoring system data results will be used to determine compliance with the applicable opacity standard during a performance test required by 40 CFR 60.8 in lieu of Method 9 observation data as allowed by 40 CFR 60.11(e)(5) of 40 CFR 60. This notification shall be postmarked not less than 30 days prior to the date of the performance test.

(b) Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

(c) Each owner or operator required to install a continuous monitoring system (CMS) or monitoring device shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form (see paragraph (d) of this section) to the Administrator semiannually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. All reports shall be postmarked by the 30th day following the end of each six-month period. Written reports of excess emissions shall include the following information:

(1) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

(2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

(4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

(d) The summary report form shall contain the information and be in the format shown in Figure 1 unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility.

(1) If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in 40 CFR 60.7(c) need not be submitted unless requested by the Administrator.

(2) If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in 40 CFR 60.7(c) shall both be submitted.

*[See Attached Figure 1-Summary Report-Gaseous and Opacity Excess Emission and Monitoring System Performance]*

(e) (1) Notwithstanding the frequency of reporting requirements specified in paragraph (c) of this section, an owner or operator who is required by an applicable subpart to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:

(i) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected facility's excess emissions and monitoring systems reports submitted to comply with a standard under this part continually demonstrate that the facility is in compliance with the applicable standard;

(ii) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in this subpart and the applicable standard; and

(iii) The Administrator does not object to a reduced frequency of reporting for the affected facility, as provided in paragraph (e)(2) of this section.

(2) The frequency of reporting of excess emissions and monitoring systems performance (and summary) reports may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the required recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(3) As soon as monitoring data indicate that the affected facility is not in compliance with any emission limitation or operating parameter specified in the applicable standard, the frequency of reporting shall revert to the frequency specified in the applicable standard, and the owner or operator shall submit an excess emissions and monitoring systems performance re-port (and summary report, if required) at the next appropriate reporting period following the noncomplying event. After demonstrating compliance with the applicable standard for another full year, the owner or operator may



again request approval from the Administrator to reduce the frequency of reporting for that standard as provided for in paragraphs (e)(1) and (e)(2) of this section.

(f) Any owner or operator subject to the provisions of this part shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records, except as follows:

(1) This paragraph applies to owners or operators required to install a continuous emissions monitoring system (CEMS) where the CEMS installed is automated, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. An automated CEMS records and reduces the measured data to the form of the pollutant emission standard through the use of a computerized data acquisition system. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (f) of this section, the owner or operator shall retain the most recent consecutive three averaging periods of subhourly measurements and a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard.

(2) This paragraph applies to owners or operators required to install a CEMS where the measured data is manually reduced to obtain the reportable form of the standard, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (f) of this section, the owner or operator shall retain all subhourly measurements for the most recent reporting period. The subhourly measurements shall be retained for 120 days from the date of the most recent summary or excess emission report submitted to the Administrator.

(3) The Administrator or delegated authority, upon notification to the source, may require the owner or operator to maintain all measurements as required by paragraph (f) of this section, if the Administrator or the delegated authority determines these records are required to more accurately assess the compliance status of the affected source.

(g) If notification substantially similar to that in 40 CFR 60.7(a) is required by any other State or local agency, sending the Administrator a copy of that notification will satisfy the requirements of 40 CFR 60.7(a).

(h) Individual subparts of this part may include specific provisions which clarify or make inapplicable the provisions set forth in this section.

[40 CFR 60.7(a), (b), (c), (d), (e), (f), (g), (h)]

#### **40 CFR 60.8 Performance tests.**

(a) Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).

[40 CFR 60.8(a)]

(b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart unless the Administrator (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance, (4) waives the requirement for

performance tests because the owner or operator of a source has demonstrated by other means to the Administrator's satisfaction that the affected facility is in compliance with the standard, or (5) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in 40 CFR 60.8 shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

[40 CFR 60.8(b)(1), (2), (3), (4) & (5)]

(c) Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

[40 CFR 60.8(c)].

(d) The owner or operator of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present. If after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc) in conducting the scheduled performance test, the owner or operator of an affected facility shall notify the administrator (or delegated State or local agency) as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Administrator (or delegated State or local agency) by mutual agreement.

(e) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(1) Sampling ports adequate for test methods applicable to such facility. This includes

(i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and

(ii) providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.

(2) Safe sampling platform(s).

(3) Safe access to sampling platform(s).

(4) Utilities for sampling and testing equipment.

[40 CFR 60.8(e)].

(f) Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

[40 CFR 60.8(f)].

## **§ 60.9 Availability of information.**

The availability to the public of information provided to, or otherwise obtained by, the Administrator under this part shall be governed by part 2 of this chapter. (Information submitted voluntarily to the Administrator for the purposes of §§ 60.5 and 60.6 is governed by §§ 2.201 through 2.213 of this chapter and not by § 2.301 of this chapter.)

#### **40 CFR 60.10 State authority.**

The provisions of 40 CFR 60 shall not be construed in any manner to preclude any State or political subdivision thereof from:

(a) Adopting and enforcing any emission standard or limitation applicable to an affected facility, provided that such emission standard or limitation is not less stringent than the standard applicable to such facility.

(b) Requiring the owner or operator of an affected facility to obtain permits, licenses, or approvals prior to initiating construction, modification, or operation of such facility.

[40 CFR 60.10(a) and (b)].

#### **40 CFR 60.11 Compliance with standards and maintenance requirements.**

(a) Compliance with standards in this part, other than opacity standards, shall be determined only by performance tests established by 40 CFR 60.8, unless otherwise specified in the applicable standard.

(b) Compliance with opacity standards in this part shall be determined by conducting observations in accordance with Method 9 in appendix A of this part, any alternative method that is approved by the Administrator, or as provided in 40 CFR 60.11(e)(5). For purposes of determining initial compliance, the minimum total time of observations shall be 3 hours (30 6-minute averages) for the performance test or other set of observations (meaning those fugitive-type emission sources subject only to an opacity standard).

(c) The opacity standards set forth in this part shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard.

(d) At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(e) (1) For the purpose of demonstrating initial compliance, opacity observations shall be conducted concurrently with the initial performance test required in 40 CFR 60.8 unless one of the following conditions apply. If no performance test under 40 CFR 60.8 is required, then opacity observations shall be conducted within 60 days after achieving the maximum production rate at which the affected facility will be operated but no later than 180 days after initial startup of the facility. If visibility or other conditions prevent the opacity observations from being conducted concurrently with the initial performance test required under 40 CFR 60.8, the source owner or operator shall reschedule the opacity observations as soon after the initial performance test as possible, but not later than 30 days thereafter, and shall advise the Administrator of the rescheduled date. In these cases, the 30-day prior notification to the Administrator required in 40 CFR 60.7(a)(6) shall be waived. The rescheduled opacity observations shall be conducted (to the extent possible) under the same operating conditions that existed during the initial performance test conducted under 40 CFR 60.8. The visible emissions observer shall determine whether visibility or other conditions prevent the opacity observations from being made concurrently with the initial performance test in accordance with procedures

contained in Method 9 of appendix B of this part. Opacity readings of portions of plumes which contain condensed, uncombined water vapor shall not be used for purposes of determining compliance with opacity standards. The owner or operator of an affected facility shall make available, upon request by the Administrator, such records as may be necessary to determine the conditions under which the visual observations were made and shall provide evidence indicating proof of current visible observer emission certification. Except as provided in 40 CFR 60.11(e)(5), the results of continuous monitoring by transmissometer which indicate that the opacity at the time visual observations were made was not in excess of the standard are probative but not conclusive evidence of the actual opacity of an emission, provided that the source shall meet the burden of proving that the instrument used meets (at the time of the alleged violation) Performance Specification 1 in appendix B of 40 CFR 60, has been properly maintained and (at the time of the alleged violation) that the resulting data have not been altered in any way.

(2) Except as provided in 40 CFR 60.11(e)(3), the owner or operator of an affected facility to which an opacity standard in this part applies shall conduct opacity observations in accordance with 40 CFR 60.11(b), shall record the opacity of emissions, and shall report to the Administrator the opacity results along with the results of the initial performance test required under 40 CFR 60.8. The inability of an owner or operator to secure a visible emissions observer shall not be considered a reason for not conducting the opacity observations concurrent with the initial performance test.

(3) The owner or operator of an affected facility to which an opacity standard in this part applies may request the Administrator to determine and to record the opacity of emissions from the affected facility during the initial performance test and at such times as may be required. The owner or operator of the affected facility shall report the opacity results. Any request to the Administrator to determine and to record the opacity of emissions from an affected facility shall be included in the notification required in 40 CFR 60.7(a)(6). If, for some reason, the Administrator cannot determine and record the opacity of emissions from the affected facility during the performance test, then the provisions of 40 CFR 60.7(e)(1) shall apply.

(4) The owner or operator of an affected facility using a continuous opacity monitor (transmissometer) shall record the monitoring data produced during the initial performance test required by 40 CFR 60.8 and shall furnish the Administrator a written report of the monitoring results along with Method 9 and 40 CFR 60.8 performance test results.

(5) The owner or operator of an affected facility subject to an opacity standard may submit, for compliance purposes, continuous opacity monitoring system (COMS) data results produced during any performance test required under 40 CFR 60.8 in lieu of Method 9 observation data. If an owner or operator elects to submit COMS data for compliance with the opacity standard, he shall notify the Administrator of that decision, in writing, at least 30 days before any performance test required under 40 CFR 60.8 is conducted. Once the owner or operator of an affected facility has notified the Administrator to that effect, the COMS data results will be used to determine opacity compliance during subsequent tests required under 40 CFR 60.8 until the owner or operator notifies the Administrator, in writing, to the contrary. For the purpose of determining compliance with the opacity standard during a performance test required under 40 CFR 60.8 using COMS data, the minimum total time of COMS data collection shall be averages of all 6-minute continuous periods within the duration of the mass emission performance test. Results of the COMS opacity determinations shall be submitted along with the results of the performance test required under 60.8. The owner or operator of an affected facility using a COMS for compliance purposes is responsible for demonstrating that the COMS meets the requirements specified in 40 CFR 60.13(c), that the COMS has been properly maintained and operated, and that the resulting data have not been altered in any way. If COMS data results are submitted for compliance with the opacity standard for a period of time during which Method 9 data indicates noncompliance, the Method 9 data will be used to determine compliance with the opacity standard.

(6) Upon receipt from an owner or operator of the written reports of the results of the performance tests required by 40 CFR 60.8, the opacity observation results and observer certification required by 40 CFR 60.11(e)(1), and the COMS results, if applicable, the Administrator will make a finding concerning compliance with opacity and other applicable standards. If COMS data results are used to comply with an

opacity standard, only those results are required to be submitted along with the performance test results required by 40 CFR 60.8. If the Administrator finds that an affected facility is in compliance with all applicable standards for which performance tests are conducted in accordance with 40 CFR 60.8 of this part but during the time such performance tests are being conducted fails to meet any applicable opacity standard, the shall notify the owner or operator and advise him that he may petition the Administrator within 10 days of receipt of notification to make appropriate adjustment to the opacity standard for the affected facility.

(7) The Administrator will grant such a petition upon a demonstration by the owner or operator that the affected facility and associated air pollution control equipment was operated and maintained in a manner to minimize the opacity of emissions during the performance tests; that the performance tests were performed under the conditions established by the Administrator; and that the affected facility and associated air pollution control equipment were incapable of being adjusted or operated to meet the applicable opacity standard.

(8) The Administrator will establish an opacity standard for the affected facility meeting the above requirements at a level at which the source will be able, as indicated by the performance and opacity tests, to meet the opacity standard at all times during which the source is meeting the mass or concentration emission standard. The Administrator will promulgate the new opacity standard in the Federal Register.

(f) Special provisions set forth under an applicable subpart of 40 CFR 60 shall supersede any conflicting provisions of 40 CFR 60.11.

[40 CFR 60.11(a), (b), (c), (d), (e) and (f)]

#### **40 CFR 60.12 Circumvention.**

No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.

[40 CFR 60.12]

#### **40 CFR 60.13 Monitoring requirements.**

(a) For the purposes of this section, all continuous monitoring systems required under applicable subparts shall be subject to the provisions of this section upon promulgation of performance specifications for continuous monitoring systems under appendix B of 40 CFR 60 and, if the continuous monitoring system is used to demonstrate compliance with emission limits on a continuous basis, appendix F to 40 CFR 60, unless otherwise specified in an applicable subpart or by the Administrator. Appendix F is applicable December 4, 1987.

(b) All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests under 40 CFR 60.8. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device.

(c) If the owner or operator of an affected facility elects to submit continuous opacity monitoring system (COMS) data for compliance with the opacity standard as provided under 40 CFR 60.11(e)(5), he/she shall conduct a performance evaluation of the COMS as specified in Performance Specification 1, appendix B, of 40 CFR 60 before the performance test required under 40 CFR 60.8 is conducted. Otherwise, the owner or operator of an affected facility shall conduct a performance evaluation of the COMS or continuous emission monitoring system (CEMS) during any performance test required under 40 CFR 60.8 or within 30 days

thereafter in accordance with the applicable performance specification in appendix B of 40 CFR 60. The owner or operator of an affected facility shall conduct COMS or CEMS performance evaluations at such other times as may be required by the Administrator under section 114 of the Act.

(1) The owner or operator of an affected facility using a COMS to determine opacity compliance during any performance test required under 40 CFR 60.8 and as described in 40 CFR 60.11(e)(5), shall furnish the Administrator two or, upon request, more copies of a written report of the results of the COMS performance evaluation described in 40 CFR 60.13(c) at least 10 days before the performance test required under 40 CFR 60.8 is conducted.

(2) Except as provided in 40 CFR 60.13(c)(1), the owner or operator of an affected facility shall furnish the Administrator within 60 days of completion two or, upon request, more copies of a written report of the results of the performance evaluation.

(d) (1) Owners and operators of a CEMS installed in accordance with the provisions of this part, must check the zero (or low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily in accordance with a written procedure. The zero and span shall, as a minimum, be adjusted whenever the 24-hour zero drift or 24-hour span drift exceeds two times the limits of the applicable performance specifications in appendix B. The system must allow the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified, whenever specified. For a COMS, the optical surfaces, exposed to the effluent gases, must be cleaned before performing the zero and upscale drift adjustments, except for systems using automatic zero adjustments. The optical surfaces must be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.

(2) Unless otherwise approved by the Administrator, the following procedures shall be followed for continuous monitoring systems measuring opacity of emissions. Minimum procedures shall include a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photo detector assembly.

(e) Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under 40 CFR 60.13(d), all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

(1) All continuous monitoring systems referenced by 40 CFR 60.13(c) for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(2) All continuous monitoring systems referenced by 40 CFR 60.13(c) for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(f) All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of appendix B of 40 CFR 60 shall be used.

(g) (1) When more than one continuous monitoring system is used to measure the emissions from only one affected facility (e.g. multiple breechings, multiple outlets), the owner or operator shall report the results as required from each continuous monitoring system. When the effluent from one affected facility is released to the atmosphere through more than one point, the owner or operator shall install an applicable continuous monitoring system on each separate effluent unless installation of fewer systems is approved by the Administrator.

(2) When the effluents from two or more affected facilities subject to the same opacity standard are combined before being released to the atmosphere, the owner or operator may either install a continuous opacity monitoring system at a location monitoring the combined effluent or install an opacity combiner system comprised of opacity and flow monitoring systems on each stream, and shall report as per Sec. 60.7(c) on the combined effluent. When the affected facilities are not subject to the same opacity standard applicable, except for documented periods of shutdown of the affected facility, subject to the most stringent opacity standard shall apply

(3) When the effluents from two or more affected facilities subject to the same emissions standard, other than opacity, are combined before released to the atmosphere, the owner or operator may install applicable continuous monitoring systems on each effluent or on the combined effluent. When the affected facilities are not subject to the continuous monitoring standard, separate continuous monitoring systems shall be installed on each effluent and the owner or operator shall report as required for each affected facility.

(h) Owners or operators of all continuous monitoring systems for measurement of opacity shall reduce all data to 6-minute averages and for continuous monitoring systems other than opacity to 1-hour averages for time periods as defined in 40 CFR 60.2. Six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period. For continuous monitoring systems other than opacity, 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. Data recorded during periods of continuous system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. For owners or operators complying with the requirements in Sec. 60.7(f)(1) or (2), data averages must include any data recorded during periods of monitor breakdown or malfunction. An arithmetic or integrated average of all data may be used. The data may be recorded in reduced or non reduced form (e.g., ppm pollutant and percent O<sub>2</sub> or ng or pollutant per J of heat input). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in subparts. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used in the applicable subparts to specify the emission limit (e.g., rounded to the nearest 1 percent opacity).  
[Rule 62-296.800, F.A.C.; 40 CFR 60.13(h)].

(i) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring procedures or requirements of this part including, but not limited to the following:

(1) Alternative monitoring requirements when installation of a continuous monitoring system or monitoring device specified by this part would not provide accurate measurements due to liquid water or other interferences caused by substances in the effluent gases.

(2) Alternative monitoring requirements when the affected facility is infrequently operated.

(3) Alternative monitoring requirements to accommodate continuous monitoring systems that require additional measurements to correct for stack moisture conditions.

(4) Alternative locations for installing continuous monitoring systems or monitoring devices when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements.

(5) Alternative methods of converting pollutant concentration measurements to units of the standards.

(6) Alternative procedures for performing daily checks of zero and span drift that do not involve use of span gases or test cells.

(7) Alternatives to the A.S.T.M. test methods or sampling procedures specified by any subpart.

(8) Alternative continuous monitoring systems that do not meet the design or performance requirements in Performance Specification 1, appendix B, but adequately demonstrate a definite and consistent relationship between its measurements and the measurements of opacity by a system complying with the requirements in Performance Specification 1. The Administrator may require that such demonstration be performed for each affected facility.

(9) Alternative monitoring requirements when the effluent from a single affected facility or the combined effluent from two or more affected facilities is released to the atmosphere through more than one point.  
[Rule 62-296.800, F.A.C.; 40 CFR 60.13(i)].

(j) An alternative to the relative accuracy (RA) test specified in Performance Specification 2 of appendix B may be requested as follows:

(1) An alternative to the reference method tests for determining RA is available for sources with emission rates demonstrated to be less than 50 percent of the applicable standard. A source owner or operator may petition the Administrator to waive the RA test in section 8.4 of Performance Specification 2 and substitute the procedures in section 16.0 if the results of a performance test conducted according to the requirements in 40 CFR 60.8 of this subpart or other tests performed following the criteria in 40 CFR 60.8 demonstrate that the emission rate of the pollutant of interest in the units of the applicable standard is less than 50 percent of the applicable standard. For sources subject to standards expressed as control efficiency levels, a source owner or operator may petition the Administrator to waive the RA test and substitute the procedures in section 16.0 of Performance Specification 2 if the control device exhaust emission rate is less than 50 percent of the level needed to meet the control efficiency requirement. The alternative procedures do not apply if the continuous emission monitoring system is used to determine compliance continuously with the applicable standard. The petition to waive the RA test shall include a detailed description of the procedures to be applied. Included shall be location and procedure for conducting the alternative, the concentration or response levels of the alternative RA materials, and the other equipment checks included in the alternative procedure. The Administrator will review the petition for completeness and applicability. The determination to grant a waiver will depend on the intended use of the CEMS data (e.g., data collection purposes other than NSPS) and may require specifications more stringent than in Performance Specification 2 (e.g., the applicable emission limit is more stringent than NSPS).

(2) The waiver of a CEMS RA test will be reviewed and may be rescinded at such time, following successful completion of the alternative RA procedure that the CEMS data indicate the source emissions approaching the level. The criterion for reviewing the waiver is the collection of CEMS data showing that emissions have exceeded 70 percent of the applicable standard for seven, consecutive, averaging periods as specified by the applicable regulation(s). For sources subject to standards expressed as control efficiency levels, the criterion for reviewing the waiver is the collection of CEMS data showing that exhaust emissions have exceeded 70 percent of the level needed to meet the control efficiency requirement for seven, consecutive, averaging periods as specified by the applicable regulation(s) [e.g., 40 CFR 60.45(g)(2) and 40 CFR 60.45(g)(3), 40 CFR 60.73(e), and 40 CFR 60.84(e)]. It is the responsibility of the source operator to maintain records and determine the level of emissions relative to the criterion on the waiver of RA testing. If this criterion is exceeded, the owner or operator must notify the Administrator within 10 days of such occurrence and include a description of the nature and cause of the increasing emissions. The Administrator will review the notification and may rescind the waiver and require the owner or operator to conduct a RA test of the CEMS as specified in section 8.4 of Performance Specification 2.  
[Rule 62-296.800, F.A.C.; 40 CFR 60.13(j)].

#### **40 CFR 60.14 Modification.**

(a) Except as provided under 40 CFR 60.14(e) and 40 CFR 60.14(f), any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere.  
[Rule 62-296.800, F.A.C.; 40 CFR 60.14(a)].



(b) Emission rate shall be expressed as kg/hr (lbs./hour) of any pollutant discharged into the atmosphere for which a standard is applicable. The Administrator shall use the following to determine emission rate:

(1) Emission factors as specified in the latest issue of "Compilation of Air Pollutant Emission Factors", EPA Publication No. AP-42, or other emission factors determined by the Administrator to be superior to AP-42 emission factors, in cases where utilization of emission factors demonstrates that the emission level resulting from the physical or operational change will either clearly increase or clearly not increase.

(2) Material balances, continuous monitor data, or manual emission tests in cases where utilization of emission factors as referenced in 40 CFR 60.14(b)(1) does not demonstrate to the Administrator's satisfaction whether the emission level resulting from the physical or operational change will either clearly increase or clearly not increase, or where an owner or operator demonstrates to the Administrator's satisfaction that there are reasonable grounds to dispute the result obtained by the Administrator utilizing emission factors as referenced in 40 CFR 60.14(b)(1). When the emission rate is based on results from manual emission tests or continuous monitoring systems, the procedures specified in 40 CFR 60 appendix C of 40 CFR 60 shall be used to determine whether an increase in emission rate has occurred. Tests shall be conducted under such conditions as the Administrator shall specify to the owner or operator based on representative performance of the facility. At least three valid test runs must be conducted before and at least three after the physical or operational change. All operating parameters which may affect emissions must be held constant to the maximum feasible degree for all test runs.

[Rule 62-296.800, F.A.C.; 40 CFR 60.14(b)].

(c) The addition of an affected facility to a stationary source as an expansion to that source or as a replacement for an existing facility shall not by itself bring within the applicability of this part any other facility within that source.

[Rule 62-296.800, F.A.C.; 40 CFR 60.14(c)].

(d) [Reserved]

(e) The following shall not, by themselves, be considered modifications under this part:

(1) Maintenance, repair, and replacement which the Administrator determines to be routine for a source category, subject to the provisions of 40 CFR 60.14(c) and 40 CFR 60.15.

(2) An increase in production rate of an existing facility, if that increase can be accomplished without a capital expenditure on that facility.

(3) An increase in the hours of operation.

(4) Use of an alternative fuel or raw material if, prior to the date any standard under this part becomes applicable to that source type, as provided by 40 CFR 60.1, the existing facility was designed to accommodate that alternative use. A facility shall be considered to be designed to accommodate an alternative fuel or raw material if that use could be accomplished under the facility's construction specifications as amended prior to the change. Conversion to coal required for energy considerations, as specified in section 111(a)(8) of the Act, shall not be considered a modification.

(5) The addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or is replaced by a system which the Administrator determines to be less environmentally beneficial.

(6) The relocation or change in ownership of an existing facility.

[Rule 62-296.800, F.A.C.; 40 CFR 60.14(e)].

(f) Special provisions set forth under an applicable subpart of this part shall supersede any conflicting provisions of this section.

[Rule 62-296.800, F.A.C.; 40 CFR 60.14(f)].

(g) Within 180 days of the completion of any physical or operational change subject to the control measures specified in 40 CFR 60.14(a), compliance with all applicable standards must be achieved.  
[Rule 62-296.800, F.A.C.; 40 CFR 60.14(g)].

(h) No physical change, or change in the method of operation, at an existing electric utility steam generating unit shall be treated as a modification for the purposes of this section provided that such change does not increase the maximum hourly emissions of any pollutant regulated under this section above the maximum hourly emissions achievable at that unit during the 5 years prior to the change.

(i) Repowering projects that are awarded funding from the Department of Energy as permanent clean coal technology demonstration projects (or similar projects funded by EPA) are exempt from the requirements of this section provided that such change does not increase the maximum hourly emissions of any pollutant regulated under this section above the maximum hourly emissions achievable at that unit during the five years prior to the change.

(j) (1) Repowering projects that qualify for an extension under section 409(b) of the Clean Air Act are exempt from the requirements of this section, provided that such change does not increase the actual hourly emissions of any pollutant regulated under this section above the actual hourly emissions achievable at that unit during the 5 years prior to the change.

(2) This exemption shall not apply to any new unit that:

(i) Is designated as a replacement for an existing unit;

(ii) Qualifies under section 409(b) of the Clean Air Act for an extension of an emission limitation compliance date under section 405 of the Clean Air Act; and

(iii) Is located at a different site than the existing unit.

(k) The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project is exempt from the requirements of this section. A *temporary clean coal control technology demonstration project*, for the purposes of this section is a clean coal technology demonstration project that is operated for a period of 5 years or less, and which complies with the State implementation plan for the State in which the project is located and other requirements necessary to attain and maintain the national ambient air quality standards during the project and after it is terminated.

(l) The reactivation of a very clean coal-fired electric utility steam generating unit is exempt from the requirements of this section.

#### **40 CFR 60.15 Reconstruction.**

(a) An existing facility, upon reconstruction, becomes an affected facility, irrespective of any change in emission rate.  
[Rule 62-296.800, F.A.C.; 40 CFR 60.15(a)].

(b) "Reconstruction" means the replacement of components of an existing facility to such an extent that:

(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, and

(2) It is technologically and economically feasible to meet the applicable standards set forth in this part.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(b)].

(c) "Fixed capital cost" means the capital needed to provide all the depreciable components.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(c)].

(d) If an owner or operator of an existing facility proposes to replace components, and the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, he shall notify the Administrator of the proposed replacements. The notice must be postmarked 60 days (or as soon as practicable) before construction of the replacements is commenced and must include the following information:

- (1) Name and address of the owner or operator.
- (2) The location of the existing facility.
- (3) A brief description of the existing facility and the components which are to be replaced.
- (4) A description of the existing air pollution control equipment and the proposed air pollution control equipment.
- (5) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new facility.
- (6) The estimated life of the existing facility after the replacements.
- (7) A discussion of any economic or technical limitations the facility may have in complying with the applicable standards of performance after the proposed replacements.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(d)].

(e) The Administrator will determine, within 30 days of the receipt of the notice required by 40 CFR 60.15(d) and any additional information he may reasonably require, whether the proposed replacement constitutes reconstruction.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(e)].

(f) The Administrator's determination under 40 CFR 60.15(e) shall be based on:

- (1) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new facility;
- (2) The estimated life of the facility after the replacements compared to the life of a comparable entirely new facility;
- (3) The extent to which the components being replaced cause or contribute to the emissions from the facility; and
- (4) Any economic or technical limitations on compliance with applicable standards of performance which are inherent in the proposed replacements.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(f)].

(g) Individual subparts of this part may include specific provisions which refine and delimit the concept of reconstruction set forth in this section.

[Rule 62-296.800, F.A.C.; 40 CFR 60.15(g)].

## **§ 60.18 General control device requirements.**

(a) *Introduction.* This section contains requirements for control devices used to comply with applicable subparts of parts 60 and 61. The requirements are placed here for administrative convenience and only apply to facilities covered by subparts referring to this section.

(b) *Flares.* Paragraphs (c) through (f) apply to flares.

(c) (1) Flares shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(2) Flares shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f).

(3) An owner/operator has the choice of adhering to either the heat content specifications in paragraph (c)(3)(ii) of this section and the maximum tip velocity specifications in paragraph (c)(4) of this section, or adhering to the requirements in paragraph (c)(3)(i) of this section.

(i) (A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume), or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity,  $V_{max}$ , as determined by the following equation:

$$V_{max} = (XH_2 - K_1) * K_2$$

Where:

$V_{max}$  = Maximum permitted velocity, m/sec.

$K_1$  = Constant, 6.0 volume-percent hydrogen.

$K_2$  = Constant, 3.9(m/sec)/volume-percent hydrogen.

$XH_2$  = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77. (Incorporated by reference as specified in § 60.17).

(B) The actual exit velocity of a flare shall be determined by the method specified in paragraph (f)(4) of this section.

(ii) Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (f)(3) of this section.

(4) (i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4) of this section, less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs (c)(4) (ii) and (iii) of this section.

(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4), less than the velocity,  $V_{max}$ , as determined by the method specified in paragraph (f)(5), and less than 122 m/sec (400 ft/sec) are allowed.

(5) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity,  $V_{max}$ , as determined by the method specified in paragraph (f)(6).

(6) Flares used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(d) Owners or operators of flares used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators of flares shall monitor these control devices.

(e) Flares used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

(f) (1) Method 22 of appendix A to this part shall be used to determine the compliance of flares with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.

(2) The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

(3) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^n C_i H_i$$

Eq. 1

where:

HT=Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C;

$$K = \frac{\text{Constant}}{1.740 \times 10^{-7}} \left( \frac{1}{\text{ppm}} \right) \left( \frac{\text{g mole}}{\text{scm}} \right) \left( \frac{\text{MJ}}{\text{kcal}} \right)$$

where the standard temperature for  $\left( \frac{\text{g mole}}{\text{scm}} \right)$  is 20°C;

Eq. 2

Ci=Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77 or 90 (Reapproved 1994) (Incorporated by reference as specified in § 60.17); and

Hi=Net heat of combustion of sample component i, kcal/g mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 (incorporated by reference as specified in § 60.17) if published values are not available or cannot be calculated.

(4) The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.

(5) The maximum permitted velocity, Vmax, for flares complying with paragraph (c)(4)(iii) shall be determined by the following equation.  $\text{Log}_{10}(V_{\text{max}}) = (\text{HT} + 28.8) / 31.7$

Vmax=Maximum permitted velocity, M/sec

28.8=Constant

31.7=Constant

HT=The net heating value as determined in paragraph (f)(3).

(6) The maximum permitted velocity, Vmax, for air-assisted flares shall be determined by the following equation.  $V_{\text{max}} = 8.706 + 0.7084 (\text{HT})$

Vmax=Maximum permitted velocity, m/sec

8.706=Constant

0.7084=Constant

HT=The net heating value as determined in paragraph (f)(3).

## **§ 60.19 General notification and reporting requirements.**

(a) For the purposes of this part, time periods specified in days shall be measured in calendar days, even if the word “calendar” is absent, unless otherwise specified in an applicable requirement.

(b) For the purposes of this part, if an explicit postmark deadline is not specified in an applicable requirement for the submittal of a notification, application, report, or other written communication to the Administrator, the owner or operator shall postmark the submittal on or before the number of days specified in the applicable requirement. For example, if a notification must be submitted 15 days before a particular event is scheduled to take place, the notification shall be post-marked on or before 15 days preceding the event; likewise, if a notification must be submitted 15 days after a particular event takes place, the notification shall be delivered or postmarked on or before 15 days following the end of the event. The use of reliable non-Government mail carriers that provide indications of verifiable delivery of information required to be submitted to the

Administrator, similar to the post-mark provided by the U.S. Postal Service, or alternative means of delivery, including the use of electronic media, agreed to by the permitting authority, is acceptable.

(c) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.

(d) If an owner or operator of an affected facility in a State with delegated authority is required to submit periodic reports under this part to the State, and if the State has an established timeline for the submission of periodic reports that is consistent with the reporting frequency(ies) specified for such facility under this part, the owner or operator may change the dates by which periodic reports under this part shall be submitted (without changing the frequency of reporting) to be consistent with the State's schedule by mutual agreement between the owner or operator and the State. The allowance in the previous sentence applies in each State beginning 1 year after the affected facility is required to be in compliance with the applicable subpart in this part. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.

(e) If an owner or operator supervises one or more stationary sources affected by standards set under this part and standards set under part 61, part 63, or both such parts of this chapter, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State with an approved permit program) a common schedule on which periodic reports required by each applicable standard shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the stationary source is required to be in compliance with the applicable subpart in this part, or 1 year after the stationary source is required to be in compliance with the applicable 40 CFR part 61 or part 63 of this chapter standard, whichever is latest. Procedures governing the implementation of this provision are specified in paragraph (f) of this section.

(f) (1) (i) Until an adjustment of a time period or postmark deadline has been approved by the Administrator under paragraphs (f)(2) and (f)(3) of this section, the owner or operator of an affected facility remains strictly subject to the requirements of this part.

(ii) An owner or operator shall request the adjustment provided for in paragraphs (f)(2) and (f)(3) of this section each time he or she wishes to change an applicable time period or postmark deadline specified in this part.

(2) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. An owner or operator who wishes to request a change in a time period or postmark deadline for a particular requirement shall request the adjustment in writing as soon as practicable before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is warranted.

(3) If, in the Administrator's judgment, an owner or operator's request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

(4) If the Administrator is unable to meet a specified deadline, he or she will notify the owner or operator of any significant delay and inform the owner or operator of the amended schedule.

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**Subpart VV - Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry**

**§ 60.480 Applicability and designation of affected facility.**

(a) (1) The provisions of this subpart apply to affected facilities in the synthetic organic chemicals manufacturing industry.

(2) The group of all equipment (defined in § 60.481) within a process unit is an affected facility.

(b) Any affected facility under paragraph (a) of this section that commences construction or modification after January 5, 1981, shall be subject to the requirements of this subpart.

(c) Addition or replacement of equipment for the purpose of process improvement which is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.

(d) (1) If an owner or operator applies for one or more of the exemptions in this paragraph, then the owner or operator shall maintain records as required in § 60.486(i).

(2) Any affected facility that has the design capacity to produce less than 1,000 Mg/yr (1,102 ton/yr) is exempt from § 60.482.

(3) If an affected facility produces heavy liquid chemicals only from heavy liquid feed or raw materials, then it is exempt from § 60.482.

(4) Any affected facility that produces beverage alcohol is exempt from § 60.482.

(5) Any affected facility that has no equipment in VOC service is exempt from § 60.482.

(e) *Alternative means of compliance* -- (1) *Option to comply with part 65.* Owners or operators may choose to comply with the provisions of 40 CFR part 65, subpart F, to satisfy the requirements of §§ 60.482 through 60.487 for an affected facility. When choosing to comply with 40 CFR part 65, subpart F, the requirements of § 60.485(d), (e), and (f), and § 60.486(i) and (j) still apply. Other provisions applying to an owner or operator who chooses to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(2) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart F must also comply with §§ 60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for that equipment. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(2) do not apply to owners or operators of equipment subject to this subpart complying with 40 CFR part 65, subpart F, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart F, must comply with 40 CFR part 65, subpart A.

**§ 60.481 Definitions.**

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act or in subpart A of part 60, and the following terms shall have the specific meanings given them.

*Capital expenditure* means, in addition to the definition in 40 CFR 60.2, an expenditure for a physical or operational change to an existing facility that:

(a) Exceeds P, the product of the facility's replacement cost, R, and an adjusted annual asset guideline repair allowance, A, as reflected by the following equation:  $P = R \times A$ , where



- (1) The adjusted annual asset guideline repair allowance, A, is the product of the percent of the replacement cost, Y, and the applicable basic annual asset guideline repair allowance, B, divided by 100 as reflected by the following equation:  $A = Y \times (B \div 100)$ ;
- (2) The percent Y is determined from the following equation:  $Y = 1.0 - 0.575 \log X$ , where X is 1982 minus the year of construction; and
- (3) The applicable basic annual asset guideline repair allowance, B, is selected from the following table consistent with the applicable subpart:

**Table for Determining Applicable for B**

Subpart applicable to facility	Value of to be used in equation
VV.....	12.5
DDD.....	12.5
GGG.....	7.0
KKK.....	4.5

*Closed vent system* means a system that is not open to the atmosphere and that is composed of hard-piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device or back to a process.

*Connector* means flanged, screwed, welded, or other joined fittings used to connect two pipe lines or a pipe line and a piece of process equipment.

*Control device* means an enclosed combustion device, vapor recovery system, or flare.

*Distance piece* means an open or enclosed casing through which the piston rod travels, separating the compressor cylinder from the crankcase.

*Double block and bleed system* means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

*Duct work* means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

*Equipment* means each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service and any devices or systems required by this subpart.

*First attempt at repair* means to take rapid action for the purpose of stopping or reducing leakage of organic material to atmosphere using best practices.

*Fuel gas* means gases that are combusted to derive useful work or heat.

*Fuel gas system* means the offsite and onsite piping and flow and pressure control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use as fuel gas in combustion devices or in-process combustion equipment, such as furnaces and gas turbines, either singly or in combination.

*Hard-piping* means pipe or tubing that is manufactured and properly installed using good engineering judgement and standards such as ASME B31.3, Process Piping (available from the American Society of Mechanical Engineers, PO Box 2900, Fairfield, NJ 07007-2900).

*In gas/vapor service* means that the piece of equipment contains process fluid that is in the gaseous state at operating conditions.

*In heavy liquid service* means that the piece of equipment is not in gas/vapor service or in light liquid service.

*In light liquid service* means that the piece of equipment contains a liquid that meets the conditions specified in § 60.485(e).

*In-situ sampling systems* means nonextractive samplers or in-line samplers.

*In vacuum service* means that equipment is operating at an internal pressure which is at least 5 kilopascals (kPa)(0.7 psia) below ambient pressure.

*In VOC service* means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. (The provisions of § 60.485(d) specify how to determine that a piece of equipment is not in VOC service.)

*Liquids dripping* means any visible leakage from the seal including spraying, misting, clouding, and ice formation.

*Open-ended valve or line* means any valve, except safety relief valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

*Pressure release* means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.

*Process improvement* means routine changes made for safety and occupational health requirements, for energy savings, for better utility, for ease of maintenance and operation, for correction of design deficiencies, for bottleneck removal, for changing product requirements, or for environmental control.

*Process unit* means components assembled to produce, as intermediate or final products, one or more of the chemicals listed in § 60.489 of this part. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

*Process unit shutdown* means a work practice or operational procedure that stops production from a process unit or part of a process unit. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not process unit shutdowns.

*Quarter* means a 3-month period; the first quarter concludes on the last day of the last full month during the 180 days following initial startup.

*Repaired* means that equipment is adjusted, or otherwise altered, in order to eliminate a leak as indicated by one of the following: an instrument reading of 10,000 ppm or greater, indication of liquids dripping, or indication by a sensor that a seal or barrier fluid system has failed.

*Replacement cost* means the capital needed to purchase all the depreciable components in a facility.

*Sampling connection system* means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take nonroutine grab samples is not considered a sampling connection system.

*Sensor* means a device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH, or liquid level.

*Synthetic organic chemicals manufacturing industry* means the industry that produces, as intermediates or final products, one or more of the chemicals listed in § 60.489.

*Volatile organic compounds* or VOC means, for the purposes of this subpart, any reactive organic compounds as defined in § 60.2 Definitions.

## **§ 60.482-1 Standards: General.**

(a) Each owner or operator subject to the provisions of this subpart shall demonstrate compliance with the requirements of §§ 60.482-1 through 60.482-10 or § 60.480(e) for all equipment within 180 days of initial startup.

(b) Compliance with §§ 60.482-1 to 60.482-10 will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in § 60.485.

(c) (1) An owner or operator may request a determination of equivalence of a means of emission limitation to the requirements of §§ 60.482-2, 60.482-3, 60.482-5, 60.482-6, 60.482-7, 60.482-8, and 60.482-10 as provided in § 60.484.

(2) If the Administrator makes a determination that a means of emission limitation is at least equivalent to the requirements of §§ 60.482-2, 60.482-3, 60.482-5, 60.482-6, 60.482-7, 60.482-8, or 60.482-10, an owner or operator shall comply with the requirements of that determination.

(d) Equipment that is in vacuum service is excluded from the requirements of §§ 60.482-2 to 60.482-10 if it is identified as required in § 60.486(e)(5).

#### **§ 60.482-2 Standards: Pumps in light liquid service.**

(a) (1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in §60.485(b), except as provided in § 60.482-1(c) and paragraphs (d), (e), and (f) of this section.

(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(b) (1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.  
(2) If there are indications of liquids dripping from the pump seal, a leak is detected.

(c) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 60.482-9.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a), *Provided* the following requirements are met:

(1) Each dual mechanical seal system is --

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(ii) Equipment with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of § 60.482-10; or

(iii) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(2) The barrier fluid system is in heavy liquid service or is not in VOC service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4) Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(5)(i) Each sensor as described in paragraph (d)(3) is checked daily or is equipped with an audible alarm, and

(ii) The owner or operator determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(6) (i) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in paragraph (d)(5)(ii), a leak is detected.

(ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 60.482-9.

(iii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) Any pump that is designated, as described in § 60.486(e)(1) and (2), for no detectable emission, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump:

(1) Has no externally actuated shaft penetrating the pump housing,

(2) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in § 60.485(c), and

(3) Is tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(f) If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of § 60.482-10, it is exempt from paragraphs (a) through (e) of this section.

(g) Any pump that is designated, as described in § 60.486(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of paragraphs (a) and (d)(4) through (6) of this section if:

(1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section; and

(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) of this section if a leak is detected.

(h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (a)(2) and (d)(4) of this section, and the daily requirements of paragraph (d)(5) of this section, provided that each pump is visually inspected as often as practicable and at least monthly.

### **§ 60.482-3 Standards: Compressors.**

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in § 60.482-1(c) and paragraph (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) shall be:

- (1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or
- (2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of § 60.482-10; or
- (3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(c) The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.

(d) Each barrier fluid system as described in paragraph (a) shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e) (1) Each sensor as required in paragraph (d) shall be checked daily or shall be equipped with an audible alarm.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under paragraph (e)(2), a leak is detected.

(g) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 60.482-9.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section, if it is equipped with a closed vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device that complies with the requirements of § 60.482-10, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in § 60.486(e) (1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a)-(h) if the compressor:

(1) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the methods specified in § 60.485(c); and

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times requested by the Administrator.

(j) Any existing reciprocating compressor in a process unit which becomes an affected facility under provisions of § 60.14 or § 60.15 is exempt from § 60.482(a), (b), (c), (d), (e), and (h), provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of paragraphs (a) through (e) and (h) of this section.

#### **§ 60.482-4 Standards: Pressure relief devices in gas/vapor service.**

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in § 60.485(c).

(b) (1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in § 60.482-9.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in § 60.485(c).

(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in § 60.482-10 is exempted from the requirements of paragraphs (a) and (b) of this section.

(d) (1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this section, provided the owner or operator complies with the requirements in paragraph (d)(2) of this section.

(2) After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in § 60.482-9.

#### **§ 60.482-5 Standards: Sampling connection systems.**

(a) Each sampling connection system shall be equipped with a closed-purged, closed-loop, or closed-vent system, except as provided in § 60.482-1(c). Gases displaced during filling of the sample container are not required to be collected or captured.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall comply with the requirements specified in paragraphs (b)(1) through (4) of this section:

- (1) Return the purged process fluid directly to the process line; or
- (2) Collect and recycle the purged process fluid to a process; or
- (3) Be designed and operated to capture and transport all the purged process fluid to a control device that complies with the requirements of § 60.482-10; or
- (4) Collect, store, and transport the purged process fluid to any of the following systems or facilities:

(i) A waste management unit as defined in 40 CFR 63.111, if the waste management unit is subject to, and operated in compliance with the provisions of 40 CFR part 63, subpart G, applicable to Group 1 wastewater streams;

(ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266; or

(iii) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261.

(c) In situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

#### **§ 60.482-6 Standards: Open-ended valves or lines.**

- (a) (1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in § 60.482-1(c).  
(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.
- (b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.
- (c) When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) at all other times.
- (d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b) and (c) of this section.
- (e) Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section are exempt from the requirements of paragraphs (a) through (c) of this section.

**§ 60.482-7 Standards: Valves in gas/vapor service and in light liquid service.**

- (a) Each valve shall be monitored monthly to detect leaks by the methods specified in § 60.485(b) and shall comply with paragraphs (b) through (e), except as provided in paragraphs (f), (g), and (h), § 60.483-1, 2, and § 60.482-1(c).
- (b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
- (c) (1) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.  
(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.
- (d) (1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in § 60.482-9.  
(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
- (e) First attempts at repair include, but are not limited to, the following best practices where practicable:
- (1) Tightening of bonnet bolts;
  - (2) Replacement of bonnet bolts;
  - (3) Tightening of packing gland nuts;
  - (4) Injection of lubricant into lubricated packing.
- (f) Any valve that is designated, as described in § 60.486(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) if the valve:
- (1) Has no external actuating mechanism in contact with the process fluid,

(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in § 60.485(c), and

(3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(g) Any valve that is designated, as described in § 60.486(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) if:

(1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a), and

(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in § 60.486(f)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) if:

(1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(2) The process unit within which the valve is located either becomes an affected facility through § 60.14 or § 60.15 or the owner or operator designates less than 3.0 percent of the total number of valves as difficult-to-monitor, and

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

**§ 60.482-8 Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors.**

(a) If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, the owner or operator shall follow either one of the following procedures:

(1) The owner or operator shall monitor the equipment within 5 days by the method specified in § 60.485(b) and shall comply with the requirements of paragraphs (b) through (d) of this section.

(2) The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 60.482-9.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under § 60.482-7(e).

**§ 60.482-9 Standards: Delay of repair.**

(a) Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown.



(b) Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.

(c) Delay of repair for valves will be allowed if:

(1) The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with § 60.482-10.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

**§ 60.482-10 Standards: Closed vent systems and control devices.**

(a) Owners or operators of closed vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section.

(b) Vapor recovery systems (for example, condensers and absorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent.

(c) Enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 °C.

(d) Flares used to comply with this subpart shall comply with the requirements of §60.18.

(e) Owners or operators of control devices used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.

(f) Except as provided in paragraphs (i) through (k) of this section, each closed vent system shall be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (f)(2) of this section.

(1) If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall comply with the requirements specified in paragraphs (f)(1)(i) and (f)(1)(ii) of this section:

(i) Conduct an initial inspection according to the procedures in § 60.485(b); and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed vent system is constructed of ductwork, the owner or operator shall:

- (i) Conduct an initial inspection according to the procedures in § 60.485(b); and
- (ii) Conduct annual inspections according to the procedures in § 60.485(b).

(g) Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in paragraph (h) of this section.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected.

(h) Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

(i) If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section.

(j) Any parts of the closed vent system that are designated, as described in paragraph (l)(1) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (j)(1) and (j)(2) of this section:

(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (f)(1)(i) or (f)(2) of this section; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(k) Any parts of the closed vent system that are designated, as described in paragraph (l)(2) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (k)(1) through (k)(3) of this section:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The process unit within which the closed vent system is located becomes an affected facility through §§ 60.14 or 60.15, or the owner or operator designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and

(3) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.

(l) The owner or operator shall record the information specified in paragraphs (l)(1) through (l)(5) of this section.

(1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(3) For each inspection during which a leak is detected, a record of the information specified in § 60.486(c).

(4) For each inspection conducted in accordance with § 60.485(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(5) For each visual inspection conducted in accordance with paragraph (f)(1)(ii) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(m) Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

**§ 60.483-1 Alternative standards for valves -- allowable percentage of valves leaking.**

(a) An owner or operator may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent.

(b) The following requirements shall be met if an owner or operator wishes to comply with an allowable percentage of valves leaking:

(1) An owner or operator must notify the Administrator that the owner or operator has elected to comply with the allowable percentage of valves leaking before implementing this alternative standard, as specified in § 60.487(d).

(2) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Administrator.

(3) If a valve leak is detected, it shall be repaired in accordance with § 60.482-7(d) and (e).

(c) Performance tests shall be conducted in the following manner:

(1) All valves in gas/vapor and light liquid service within the affected facility shall be monitored within 1 week by the methods specified in § 60.485(b).

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3) The leak percentage shall be determined by dividing the number of valves for which leaks are detected by the number of valves in gas/vapor and light liquid service within the affected facility.

(d) Owners and operators who elect to comply with this alternative standard shall not have an affected facility with a leak percentage greater than 2.0 percent.

**§ 60.483-2 Alternative standards for valves -- skip period leak detection and repair.**

(a) (1) An owner or operator may elect to comply with one of the alternative work practices specified in paragraphs (b)(2) and (3) of this section.

(2) An owner or operator must notify the Administrator before implementing one of the alternative work practices, as specified in § 60.487(d).

(b) (1) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in § 60.482-7.

(2) After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 1 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(3) After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(4) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in § 60.482-7 but can again elect to use this section.

(5) The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements of this section.

(6) An owner or operator must keep a record of the percent of valves found leaking during each leak detection period.

#### **§ 60.484 Equivalence of means of emission limitation.**

(a) Each owner or operator subject to the provisions of this subpart may apply to the Administrator for determination of equivalence for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this subpart.

(b) Determination of equivalence to the equipment, design, and operational requirements of this subpart will be evaluated by the following guidelines:

(1) Each owner or operator applying for an equivalence determination shall be responsible for collecting and verifying test data to demonstrate equivalence of means of emission limitation.

(2) The Administrator will compare test data for the means of emission limitation to test data for the equipment, design, and operational requirements.

(3) The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.

(c) Determination of equivalence to the required work practices in this subpart will be evaluated by the following guidelines:

(1) Each owner or operator applying for a determination of equivalence shall be responsible for collecting and verifying test data to demonstrate equivalence of an equivalent means of emission limitation.

(2) For each affected facility for which a determination of equivalence is requested, the emission reduction achieved by the required work practice shall be demonstrated.

(3) For each affected facility, for which a determination of equivalence is requested, the emission reduction achieved by the equivalent means of emission limitation shall be demonstrated.

(4) Each owner or operator applying for a determination of equivalence shall commit in writing to work practice(s) that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practice.

(5) The Administrator will compare the demonstrated emission reduction for the equivalent means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in paragraph (c)(4).

(6) The Administrator may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the required work practice.

(d) An owner or operator may offer a unique approach to demonstrate the equivalence of any equivalent means of emission limitation.

(e) (1) After a request for determination of equivalence is received, the Administrator will publish a notice in the Federal Register and provide the opportunity for public hearing if the Administrator judges that the request may be approved.

(2) After notice and opportunity for public hearing, the Administrator will determine the equivalence of a means of emission limitation and will publish the determination in the Federal Register.

(3) Any equivalent means of emission limitations approved under this section shall constitute a required work practice, equipment, design, or operational standard within the meaning of section 111(h)(1) of the Clean Air Act.

(f) (1) Manufacturers of equipment used to control equipment leaks of VOC may apply to the Administrator for determination of equivalence for any equivalent means of emission limitation that achieves a reduction in emissions of VOC achieved by the equipment, design, and operational requirements of this subpart.

(2) The Administrator will make an equivalence determination according to the provisions of paragraphs (b), (c), (d), and (e) of this section.

#### **§ 60.485 Test methods and procedures.**

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).

(b) The owner or operator shall determine compliance with the standards in §§ 60.482, 60.483, and 60.484 as follows:

(1) Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used:

- (i) Zero air (less than 10 ppm of hydrocarbon in air); and
- (ii) A mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane.

(c) The owner or operator shall determine compliance with the no detectable emission standards in §§ 60.482-2(e), 60.482-3(i), 60.482-4, 60.482-7(f), and 60.482-10(e) as follows:

(1) The requirements of paragraph (b) shall apply.

(2) Method 21 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) The owner or operator shall test each piece of equipment unless he demonstrates that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:

(1) Procedures that conform to the general methods in ASTM E260-73, 91, or 96, E168-67, 77, or 92, E169-63, 77, or 93 (incorporated by reference -- see § 60.17) shall be used to

determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment.

(2) Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.

(3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, paragraphs (d) (1) and (2) of this section shall be used to resolve the disagreement.

(e) The owner or operator shall demonstrate that an equipment is in light liquid service by showing that all the following conditions apply:

(1) The vapor pressure of one or more of the components is greater than 0.3 kPa at 20 °C (1.2 in. H<sub>2</sub>O at 68 °F). Standard reference texts or ASTM D2879-83, 96, or 97 (incorporated by reference -- see § 60.17) shall be used to determine the vapor pressures.

(2) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20 °C (1.2 in. H<sub>2</sub>O at 68 °F) is equal to or greater than 20 percent by weight.

(3) The fluid is a liquid at operating conditions.

(f) Samples used in conjunction with paragraphs (d), (e), and (g) of this section shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.

(g) The owner or operator shall determine compliance with the standards of flares as follows:

(1) Method 22 shall be used to determine visible emissions.

(2) A thermocouple or any other equivalent device shall be used to monitor the presence of a pilot flame in the flare.

(3) The maximum permitted velocity for air assisted flares shall be computed using the following equation:

$$V_{\max} = K_1 + K_2 H_T$$

Where:

V<sub>max</sub> = Maximum permitted velocity, m/sec (ft/sec)

H<sub>T</sub> = Net heating value of the gas being combusted, MJ/scm (Btu/scf).

K<sub>1</sub> = 8.706 m/sec (metric units)

= 28.56 ft/sec (English units)

K<sub>2</sub> = 0.7084 m<sup>4</sup>/(MJ-sec) (metric units)

= 0.087 ft<sup>4</sup>/(Btu-sec) (English units)

(4) The net heating value (H<sub>T</sub>) of the gas being combusted in a flare shall be computed using the following equation:

$$H_T = K \sum_{i=1}^n C_i H_i$$

Where:

K = Conversion constant, 1.740 × 10<sup>7</sup> (g-mole)(MJ)/ (ppm-scm-kcal) (metric units)

= 4.674 × 10<sup>8</sup> [(g-mole)(Btu)/(ppm-scf-kcal)] (English units)

C<sub>i</sub> = Concentration of sample component "i," ppm

Hi = net heat of combustion of sample component "i" at 25 °C and 760 mm Hg (77 °F and 14.7 psi), kcal/g-mole

(5) Method 18 and ASTM D2504-67, 77, or 88 (Reapproved 1993) (incorporated by reference -- see § 60.17) shall be used to determine the concentration of sample component "i."

(6) ASTM D2382-76 or 88 or D4809-95 (incorporated by reference -- see § 60.17) shall be used to determine the net heat of combustion of component "i" if published values are not available or cannot be calculated.

(7) Method 2, 2A, 2C, or 2D, as appropriate, shall be used to determine the actual exit velocity of a flare. If needed, the unobstructed (free) cross-sectional area of the flare tip shall be used.

#### **§ 60.486 Recordkeeping requirements.**

(a) (1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one affected facility subject to the provisions of this subpart may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

(b) When each leak is detected as specified in §§ 60.482-2, 60.482-3, 60.482-7, 60.482-8, and 60.483-2, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in § 60.482-7(c) and no leak has been detected during those 2 months.

(3) The identification on equipment except on a valve, may be removed after it has been repaired.

(c) When each leak is detected as specified in §§ 60.482-2, 60.482-3, 60.482-7, 60.482-8, and 60.483-2, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:

(1) The instrument and operator identification numbers and the equipment identification number.

(2) The date the leak was detected and the dates of each attempt to repair the leak.

(3) Repair methods applied in each attempt to repair the leak.

(4) "Above 10,000" if the maximum instrument reading measured by the methods specified in § 60.485(a) after each repair attempt is equal to or greater than 10,000 ppm.

(5) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.

(7) The expected date of successful repair of the leak if a leak is not repaired within 15 days.

(8) Dates of process unit shutdowns that occur while the equipment is unrepaired.

(9) The date of successful repair of the leak.

(d) The following information pertaining to the design requirements for closed vent systems and control devices described in § 60.482-10 shall be recorded and kept in a readily accessible location:

(1) Detailed schematics, design specifications, and piping and instrumentation diagrams.

- (2) The dates and descriptions of any changes in the design specifications.
- (3) A description of the parameter or parameters monitored, as required in § 60.482-10(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.
- (4) Periods when the closed vent systems and control devices required in §§ 60.482-2, 60.482-3, 60.482-4, and 60.482-5 are not operated as designed, including periods when a flare pilot light does not have a flame.
- (5) Dates of startups and shutdowns of the closed vent systems and control devices required in §§ 60.482-2, 60.482-3, 60.482-4, and 60.482-5.

(e) The following information pertaining to all equipment subject to the requirements in §§ 60.482-1 to 60.482-10 shall be recorded in a log that is kept in a readily accessible location:

- (1) A list of identification numbers for equipment subject to the requirements of this subpart.
- (2)
  - (i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of §§ 60.482-2(e), 60.482-3(i) and 60.482-7(f).
  - (ii) The designation of equipment as subject to the requirements of § 60.482-2(e), § 60.482-3(i), or § 60.482-7(f) shall be signed by the owner or operator.
- (3) A list of equipment identification numbers for pressure relief devices required to comply with § 60.482-4.
- (4)
  - (i) The dates of each compliance test as required in §§ 60.482-2(e), 60.482-3(i), 60.482-4, and 60.482-7(f).
  - (ii) The background level measured during each compliance test.
  - (iii) The maximum instrument reading measured at the equipment during each compliance test.
- (5) A list of identification numbers for equipment in vacuum service.

(f) The following information pertaining to all valves subject to the requirements of § 60.482-7(g) and (h) and to all pumps subject to the requirements of § 60.482-2(g) shall be recorded in a log that is kept in a readily accessible location:

- (1) A list of identification numbers for valves and pumps that are designated as unsafe-to-monitor, an explanation for each valve or pump stating why the valve or pump is unsafe-to-monitor, and the plan for monitoring each valve or pump.
- (2) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve.

(g) The following information shall be recorded for valves complying with § 60.483-2:

- (1) A schedule of monitoring.
- (2) The percent of valves found leaking during each monitoring period.

(h) The following information shall be recorded in a log that is kept in a readily accessible location:

- (1) Design criterion required in §§ 60.482-2(d)(5) and 60.482-3(e)(2) and explanation of the design criterion; and
- (2) Any changes to this criterion and the reasons for the changes.

(i) The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in § 60.480(d):

- (1) An analysis demonstrating the design capacity of the affected facility,



- (2) A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol, and
- (3) An analysis demonstrating that equipment is not in VOC service.

(j) Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.

(k) The provisions of § 60.7 (b) and (d) do not apply to affected facilities subject to this subpart.

#### **§ 60.487 Reporting requirements.**

(a) Each owner or operator subject to the provisions of this subpart shall submit semiannual reports to the Administrator beginning six months after the initial startup date.

(b) The initial semiannual report to the Administrator shall include the following information:

- (1) Process unit identification.
- (2) Number of valves subject to the requirements of § 60.482-7, excluding those valves designated for no detectable emissions under the provisions of § 60.482-7(f).
- (3) Number of pumps subject to the requirements of § 60.482-2, excluding those pumps designated for no detectable emissions under the provisions of § 60.482-2(e) and those pumps complying with § 60.482-2(f).
- (4) Number of compressors subject to the requirements of § 60.482-3, excluding those compressors designated for no detectable emissions under the provisions of § 60.482-3(i) and those compressors complying with § 60.482-3(h).

(c) All semiannual reports to the Administrator shall include the following information, summarized from the information in § 60.486:

- (1) Process unit identification.
- (2) For each month during the semiannual reporting period,
  - (i) Number of valves for which leaks were detected as described in § 60.482(7)(b) or § 60.483-2,
  - (ii) Number of valves for which leaks were not repaired as required in § 60.482-7(d)(1),
  - (iii) Number of pumps for which leaks were detected as described in § 60.482-2(b) and (d)(6)(i),
  - (iv) Number of pumps for which leaks were not repaired as required in § 60.482-2(c)(1) and (d)(6)(ii),
  - (v) Number of compressors for which leaks were detected as described in § 60.482-3(f),
  - (vi) Number of compressors for which leaks were not repaired as required in § 60.482-3(g)(1), and
  - (vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.
- (3) Dates of process unit shutdowns which occurred within the semiannual reporting period.
- (4) Revisions to items reported according to paragraph (b) if changes have occurred since the initial report or subsequent revisions to the initial report.

(d) An owner or operator electing to comply with the provisions of §§ 60.483-1 or 60.483-2 shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions.

(e) An owner or operator shall report the results of all performance tests in accordance with § 60.8 of the General Provisions. The provisions of § 60.8(d) do not apply to affected facilities subject to the provisions of this subpart except that an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests.

(f) The requirements of paragraphs (a) through (c) of this section remain in force until and unless EPA, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with the requirements of paragraphs (a) through (c) of this section, provided that they comply with the requirements established by the State.

#### **§ 60.488 Reconstruction.**

For the purposes of this subpart:

(a) The cost of the following frequently replaced components of the facility shall not be considered in calculating either the "fixed capital cost of the new components" or the "fixed capital costs that would be required to construct a comparable new facility" under § 60.15: pump seals, nuts and bolts, rupture disks, and packings.

(b) Under § 60.15, the "fixed capital cost of new components" includes the fixed capital cost of all depreciable components (except components specified in § 60.488 (a)) which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following the applicability date for the appropriate subpart. (See the "Applicability and designation of affected facility" section of the appropriate subpart.) For purposes of this paragraph, "commenced" means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

**[Please see 40 CFR 60.489 for the list of chemicals produced by affected facilities.]**

**[Last updated 2/27/06]**

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**Subpart Dc--Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units**

**Sec.**

- 60.40c Applicability and delegation of authority.
- 60.41c Definitions.
- 60.42c Standard for sulfur dioxide.
- 60.43c Standard for particulate matter.
- 60.44c Compliance and performance test methods and procedures for sulfur dioxide.
- 60.45c Compliance and performance test methods and procedures for particulate matter.
- 60.46c Emission monitoring for sulfur dioxide.
- 60.47c Emission monitoring for particulate matter.
- 60.48c Reporting and recordkeeping requirements.

**§ 60.40c Applicability and delegation of authority.**

(a) Except as provided in paragraph (d) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million Btu per hour (Btu/hr)) or less, but greater than or equal to 2.9 MW (10 million Btu/hr).

(b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, § 60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.

(c) Steam generating units which meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO<sub>2</sub>) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (§§ 60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in § 60.41c.

(d) Any temporary change to an existing steam generating unit for the purpose of conducting combustion research is not considered a modification under § 60.14.

(e) Heat recovery steam generators that are associated with combined cycle gas turbines and meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators that are capable of combusting more than or equal to 2.9 MW (10 MMBtu/h) heat input of fossil fuel but less than or equal to 29 MW (100 MMBtu/h) heat input of fossil fuel. If the heat recovery steam generator is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The gas turbine emissions are subject to subpart GG or KKKK, as applicable, of this part).

(f) Any facility covered by subpart AAAA of this part is not covered by this subpart.

(g) Any facility covered by an EPA approved State or Federal section 111(d)/129 plan implementing subpart BBBB of this part is not covered by this subpart.

### § 60.41c Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

*Annual capacity factor* means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.

*Coal* means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388-77, 90, 91, 95, or 98a, Standard Specification for Classification of Coals by Rank (IBR--see Sec. 60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels derived from coal for the purposes of creating useful heat, including but not limited to solvent refined coal, gasified coal, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

*Coal refuse* means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (kJ/kg) (6,000 Btu per pound (Btu/lb) on a dry basis.

*Cogeneration steam generating unit* means a steam generating unit that simultaneously produces both electrical (or mechanical) and thermal energy from the same primary energy source.

*Combined cycle system* means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.

*Combustion research* means the experimental firing of any fuel or combination of fuels in a steam generating unit for the purpose of conducting research and development of more efficient combustion or more effective prevention or control of air pollutant emissions from combustion, provided that, during these periods of research and development, the heat generated is not used for any purpose other than preheating combustion air for use by that steam generating unit (i.e., the heat generated is released to the atmosphere without being used for space heating, process heating, driving pumps, preheating combustion air for other units, generating electricity, or any other purpose).

*Conventional technology* means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

*Distillate oil* means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396-78, 89, 90, 92, 96, or 98, "Standard Specification for Fuel Oils" (incorporated by reference -- see § 60.17).

*Dry flue gas desulfurization technology* means a sulfur dioxide (SO<sub>2</sub>) control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.

*Duct burner* means a device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

*Emerging technology* means any SO<sub>2</sub> control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under § 60.48c(a)(4).

*Federally enforceable* means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR Parts 60 and 61, requirements within any applicable

State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

*Fluidized bed combustion technology* means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced upward in the device by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.

*Fuel pretreatment* means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

*Heat input* means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).

*Heat transfer medium* means any material that is used to transfer heat from one point to another point.

*Maximum design heat input capacity* means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.

*Natural gas* means (1) a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane, or (2) liquefied petroleum (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835-86, 87, 91, or 97, "Standard Specification for Liquefied Petroleum Gases" (incorporated by reference -- see § 60.17).

*Noncontinental area* means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

*Oil* means crude oil or petroleum, or a liquid fuel derived from crude oil or petroleum, including distillate oil and residual oil.

*Potential sulfur dioxide emission rate* means the theoretical SO<sub>2</sub> emissions (nanograms per joule [ng/J], or pounds per million Btu [lb/million Btu] heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

*Process heater* means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

*Residual oil* means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396-78, 89, 90, 92, 96, or 98, "Standard Specification for Fuel Oils" (incorporated by reference -- see § 60.17).

*Steam generating unit* means a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

*Steam generating unit operating day* means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

*Wet flue gas desulfurization technology* means an SO<sub>2</sub> control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material. This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

*Wet scrubber system* means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of particulate matter (PM) or SO<sub>2</sub>.

*Wood* means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

**§ 60.42c Standard for sulfur dioxide.**

(a) Except as provided in paragraphs (b), (c), and (e) of this section, on and after the date on which the performance test is completed or required to be completed under Sec. 60.8 of this part, whichever date comes first, the owner or operator of an affected facility that combusts only coal shall neither: Cause to be discharged into the atmosphere from the affected facility any gases that contain SO<sub>2</sub> in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO<sub>2</sub> emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO<sub>2</sub> in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 90 percent SO<sub>2</sub> reduction requirement specified in this paragraph and the emission limit is determined pursuant to paragraph (e)(2) of this section.

(b) Except as provided in paragraphs (c) and (e) of this section, on and after the date on which the performance test is completed or required to be completed under Sec. 60.8 of this part, whichever date comes first, the owner or operator of an affected facility that:

(1) Combusts only coal refuse alone in a fluidized bed combustion steam generating unit shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 20 percent (0.20) of the potential SO<sub>2</sub> emission rate (80 percent reduction), nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is fired with coal refuse, the affected facility subject to paragraph (a) of this section. If oil or any other fuel (except coal) is fired with coal refuse, the affected facility is subject to the 90 percent SO<sub>2</sub> reduction requirement specified in paragraph (a) of this section and the emission limit is determined pursuant to paragraph (e)(2) of this section.

(2) Combusts only coal and that uses an emerging technology for the control of SO<sub>2</sub> emissions shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 50 percent (0.50) of the potential SO<sub>2</sub> emission rate (50 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 260 ng/J (0.60 lb/million Btu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 50 percent SO<sub>2</sub> reduction requirement specified in this paragraph and the emission limit determined pursuant to paragraph (e)(2) of this section.

(c) On and after the date on which the initial performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal, alone or in combination with any other fuel, and is listed in paragraphs (c)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of the emission limit determined pursuant to paragraph (e)(2) of this section. Percent reduction requirements are not applicable to affected facilities under paragraph (c)(1), (2), (3) or (4).

(1) Affected facilities that have a heat input capacity of 22 MW (75 million Btu/hr) or less.

(2) Affected facilities that have an annual capacity for coal of 55 percent (0.55) or less and are subject to a Federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for coal of 55 percent (0.55) or less.

(3) Affected facilities located in a noncontinental area.

(4) Affected facilities that combust coal in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from exhaust gases entering the duct burner.

(d) On and after the date on which the initial performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of 215 ng/J (0.50 lb/million Btu) heat input; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph.

(e) On and after the date on which the initial performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, or coal and oil with any other fuel shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO<sub>2</sub> in excess of the following:

(1) The percent of potential SO<sub>2</sub> emission rate required under paragraph (a) or (b)(2) of this section, as applicable, for any affected facility that

(i) Combusts coal in combination with any other fuel,

(ii) Has a heat input capacity greater than 22 MW (75 million Btu/hr), and

(iii) Has an annual capacity factor for coal greater than 55 percent (0.55); and

(2) The emission limit determined according to the following formula for any affected facility that combusts coal, oil, or coal and oil with any other fuel:

$$E_s = (K_a H_a + K_b H_b + K_c H_c) / (H_a + H_b + H_c)$$

where:

E<sub>s</sub> is the SO<sub>2</sub> emission limit, expressed in ng/J or lb/million Btu heat input,

K<sub>a</sub> is 520 ng/J (1.2 lb/million Btu),

K<sub>b</sub> is 260 ng/J (0.60 lb/million Btu),

K<sub>c</sub> is 215 ng/J (0.50 lb/million Btu),

H<sub>a</sub> is the heat input from the combustion of coal, except coal combusted in an affected facility subject to paragraph (b)(2) of this section, in Joules (J) [million Btu]

H<sub>b</sub> is the heat input from the combustion of coal in an affected facility subject to paragraph (b)(2) of this section, in J (million Btu)

H<sub>c</sub> is the heat input from the combustion of oil, in J (million Btu).

(f) Reduction in the potential SO<sub>2</sub> emission rate through fuel pretreatment is not credited toward the percent reduction requirement under paragraph (b)(2) of this section unless:

(1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO<sub>2</sub> emission rate; and

(2) Emissions from the pretreated fuel (without either combustion or post-combustion SO<sub>2</sub> control) are equal to or less than the emission limits specified under paragraph (b)(2) of this section.

(g) Except as provided in paragraph (h) of this section, compliance with the percent reduction requirements, fuel oil sulfur limits, and emission limits of this section shall be determined on a 30-day rolling average basis.

(h) For affected facilities listed under paragraphs (h)(1), (2), or (3) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under § 60.48c(f)(1), (2), or (3), as applicable.

(1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 million Btu/hr).

(2) Residual oil-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 million Btu/hr).

(3) Coal-fired facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 million Btu/hr).

(i) The SO<sub>2</sub> emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(j) Only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from wood or other fuels or for heat derived from exhaust gases from other sources, such as stationary gas turbines, internal combustion engines, and kilns.

#### **§ 60.43c Standard for particulate matter.**

(a) On and after the date on which the initial performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal or combusts mixtures of coal with other fuels and has a heat input capacity of 8.7 MW (30 million Btu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/million Btu) heat input if the affected facility combusts only coal, or combusts coal with other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/million Btu) heat input if the affected facility combusts coal with other fuels, has an annual capacity factor for the other fuels greater than 10 percent (0.10), and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(b) On and after the date on which the initial performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts wood or combusts mixtures of wood with other fuels (except coal) and has a heat input capacity of 8.7 MW (30 million Btu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emissions limits:

(1) 43 ng/J (0.10 lb/million Btu) heat input if the affected facility has an annual capacity factor for wood greater than 30 percent (0.30); or

(2) 130 ng/J (0.30 lb/million Btu) heat input if the affected facility has an annual capacity factor for wood of 30 percent (0.30) or less and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for wood of 30 percent (0.30) or less.

(c) On and after the date on which the initial performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal, wood, or oil and has a heat input capacity of 8.7 MW (30 million Btu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.



(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.

(e) (1) On or after the date on which the initial performance test is completed or is required to be completed under Sec. 60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, gas, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter emissions in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in paragraphs (e)(2) and (e)(3) of this section. Affected facilities subject to this paragraph, are also subject to the requirements of paragraphs (c) and (d) of this section.

(2) As an alternative to meeting the requirements of paragraph (e)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the performance test required to be conducted under Sec. 60.8 is completed, the owner or operator subject to the provisions of this subpart shall not cause to be discharged into the atmosphere from any affected facility for which modification commenced after February 28, 2005, any gases that contain particulate matter in excess of:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, gas, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels, and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, gas, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On or after the date on which the initial performance test is completed or is required to be completed under Sec. 60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter emissions in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

#### **§ 60.44c Compliance and performance test methods and procedures for sulfur dioxide.**

(a) Except as provided in paragraphs (g) and (h) of this section and in § 60.8(b), performance tests required under § 60.8 shall be conducted following the procedures specified in paragraphs (b), (c), (d), (e), and (f) of this section, as applicable. Section 60.8(f) does not apply to this section. The 30-day notice required in § 60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(b) The initial performance test required under § 60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO<sub>2</sub> emission limits under § 60.42c shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affect facility will be operated, but not later than 180 days after the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.

(c) After the initial performance test required under paragraph (b) and § 60.8, compliance with the percent reduction requirements and SO<sub>2</sub> emission limits under § 60.42c is based on the average percent reduction and the average SO<sub>2</sub> emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO<sub>2</sub> emission rate are calculated to show compliance with the standard.

(d) If only coal, only oil, or a mixture of coal and oil is combusted in an affected facility, the procedures in Method 19 are used to determine the hourly SO<sub>2</sub> emission rate (E<sub>ho</sub>) and the 30-day average SO<sub>2</sub> emission

rate ( $E_{ao}$ ). The hourly averages used to compute the 30-day averages are obtained from the continuous emission monitoring system (CEMS). Method 19 shall be used to calculate  $E_{ao}$  when using daily fuel sampling or Method 6B.

(e) If coal, oil, or coal and oil are combusted with other fuels:

(1) An adjusted  $E_{ho}$  ( $E_{ho}^{\circ}$ ) is used in Equation 19-19 of Method 19 to compute the adjusted  $E_{ao}$  ( $E_{ao}^{\circ}$ ). The  $E_{ho}^{\circ}$  is computed using the following formula:

$$E_{ho}^{\circ} = [E_{ho} - E_w(1 - X_k)] / X_k$$

where:

$E_{ho}^{\circ}$  is the adjusted  $E_{ho}$ , ng/J (lb/million Btu).

$E_{ho}$  is the hourly sulfur dioxide emission rate, ng/J (lb/million Btu).

$E_w$  is the  $SO_2$  concentration in fuels other than coal and oil combusted in the affected facility, as determined by the fuel sampling and analysis procedures in Method 9, ng/J (lb/million Btu). The value  $E_w$  for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure  $E_w$  if the owner or operator elects to assume  $E_w = 0$ .

$X_k$  is the fraction of total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19.

(2) The owner or operator of an affected facility that qualifies under the provisions of § 60.42c(c) or (d) [where percent reduction is not required] does not have to measure the parameters  $E_w$  or  $X_k$  if the owner or operator of the affected facility elects to measure emission rates of the coal or oil using the fuel sampling and analysis procedures under Method 19.

(f) Affected facilities subject to the percent reduction requirements under § 60.42c(a) or (b) shall determine compliance with the  $SO_2$  emission limits under § 60.42c pursuant to paragraphs (d) or (e) of this section, and shall determine compliance with the percent reduction requirements using the following procedures:

(1) If only coal is combusted, the percent of potential  $SO_2$  emission rate is computed using the following formula:

$$\%P_s = 100(1 - \%R_g/100)(1 - \%R_f/100)$$

where

$\%P_s$  is the percent of potential  $SO_2$  emission rate, in percent

$\%R_g$  is the  $SO_2$  removal efficiency of the control device as determined by Method 19, in percent

$\%R_f$  is the  $SO_2$  removal efficiency of fuel pretreatment as determined by Method 19, in percent

(2) If coal, oil, or coal and oil are combusted with other fuels, the same procedures required in paragraph (f)(1) of this section are used, except as provided for in the following:

(i) To compute the  $\%P_s$ , an adjusted  $\%R_g$  ( $\%R_g^{\circ}$ ) is computed from  $E_{ao}^{\circ}$  from paragraph (e)(1) of this section and an adjusted average  $SO_2$  inlet rate ( $E_{ai}^{\circ}$ ) using the following formula:

$$\%R_g^{\circ} = 100 [1.0 - E_{ao}^{\circ} / E_{ai}^{\circ}]$$

where:

$\%R_g^{\circ}$  is the adjusted  $\%R_g$ , in percent

$E_{ao}^{\circ}$  is the adjusted  $E_{ao}$ , ng/J (lb/million Btu)

$E_{ai}^{\circ}$  is the adjusted average  $SO_2$  inlet rate, ng/J (lb/million Btu)

(ii) To compute  $E_{ai}^{\circ}$ , an adjusted hourly  $SO_2$  inlet rate ( $E_{hi}^{\circ}$ ) is used. The  $E_{hi}^{\circ}$  is computed using the following formula:

$$E_{hi}^{\circ} = [E_{hi} - E_w(1 - X_k)] / X_k$$

where:

$E_{hi}^{\circ}$  is the adjusted hourly  $E_{hi}$ , ng/J (lb/million Btu).

$E_{hi}$  is the hourly sulfur dioxide inlet rate, ng/J (lb/million Btu).

$E_w$  is the sulfur dioxide concentration in fuels other than coal and oil combusted in the affected facility, as determined by the fuel sampling and analysis procedures in Method 19, ng/J (lb/million Btu). The value  $E_w$  for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure  $E_w$  if the owner or operator elects to assume  $E_w = 0$ .

$X_k$  is the fraction of total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19.

(g) For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under § 60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under § 60.46c(d)(2).

(h) For affected facilities subject to § 60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO<sub>2</sub> standards based on fuel supplier certification, the performance test shall consist of the certification, the certification from the fuel supplier, as described under § 60.48c(f)(1), (2), or (3), as applicable.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO<sub>2</sub> standards under § 60.42c(c)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(j) The owner or operator of an affected facility shall use all valid SO<sub>2</sub> emissions data in calculating %P<sub>s</sub> and E<sub>ho</sub> under paragraphs (d), (e), or (f) of this section, as applicable, whether or not the minimum emissions data requirements under § 60.46c(f) are achieved. All valid emissions data, including valid data collected during periods of startup, shutdown, and malfunction, shall be used in calculating %P<sub>s</sub> or E<sub>ho</sub> pursuant to paragraphs (d), (e), or (f) of this section, as applicable.

#### **§ 60.45c Compliance and performance test methods and procedures for particulate matter.**

(a) The owner or operator of an affected facility subject to the PM and/or opacity standards under Sec. 60.43c shall conduct an initial performance test as required under Sec. 60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the following procedures and reference methods, except as specified in paragraph (c) and (d) of this section.

(1) Method 1 shall be used to select the sampling site and the number of traverse sampling points.

(2) Method 3 shall be used for gas analysis when applying Method 5, Method 5B, or Method 17.

(3) Method 5, Method 5B, or Method 17 shall be used to measure the concentration of PM as follows:

(i) Method 5 may be used only at affected facilities without wet scrubber systems.

(ii) Method 17 may be used at affected facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of Sections 8.1 and 11.1 of Method 5B may be used in Method 17 only if Method 17 is used in conjunction with a wet scrubber system. Method 17 shall not be used in conjunction with a wet scrubber system if the effluent is saturated or laden with water droplets.

(iii) Method 5B may be used in conjunction with a wet scrubber system.

(4) The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(5) For Method 5 or Method 5B, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at  $160 \pm 14$  °C ( $320 \pm 25$  °F).

(6) For determination of PM emissions, an oxygen or carbon dioxide measurement shall be obtained simultaneously with each run of Method 5, Method 5B, or Method 17 by traversing the duct at the same sampling location.

(7) For each run using Method 5, Method 5B, or Method 17, the emission rates expressed in ng/J (lb/million Btu) heat input shall be determined using:

(i) The oxygen or carbon dioxide measurements and PM measurements obtained under this section,

(ii) The dry basis F-factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19 (appendix A).

(8) Method 9 (6-minute average of 24 observations) shall be used for determining the opacity of stack emissions.

(b) The owner or operator of an affected facility seeking to demonstrate compliance with the PM standards under § 60.43c(b)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(c) Units that burn only oil containing no more than 0.5 weight percent sulfur or liquid or gaseous fuels with potential sulfur dioxide emission rates of 230 ng/J (0.54 lb/MMBtu) heat input or less are not required to conduct emissions monitoring if they maintain fuel supplier certifications of the sulfur content of the fuels burned.

(d) In place of particulate matter testing with EPA Reference Method 5, 5B, or 17, an owner or operator may elect to install, calibrate, maintain, and operate a continuous emission monitoring system for monitoring particulate matter emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor particulate matter emissions instead of conducting performance testing using EPA

Method 5, 5B, or 17 shall install, calibrate, maintain, and operate a continuous emission monitoring system and shall comply with the requirements specified in paragraphs (d)(1) through (d)(13) of this section.

(1) Notify the Administrator 1 month before starting use of the system.

(2) Notify the Administrator 1 month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with Sec. 60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under Sec. 60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of the continuous monitoring system if the owner or operator was previously determining compliance by Method 5, 5B, or 17 performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for particulate matter emissions as required under Sec. 60.8 of subpart A of this part. Compliance with the particulate matter emission limit shall be determined by using the continuous emission monitoring system specified in paragraph (d) of this section to measure particulate matter and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19, section 4.1.

(6) Compliance with the particulate matter emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using continuous emission monitoring system outlet data.

(7) At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraph (d)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) [Reserved]

(8) The 1-hour arithmetic averages required under paragraph (d)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under Sec. 60.13(e)(2) of subpart A of this part.

(9) All valid continuous emission monitoring system data shall be used in calculating average emission concentrations even if the minimum continuous emission monitoring system data requirements of paragraph (d)(7) of this section are not met.

(10) The continuous emission monitoring system shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the continuous emission monitoring system required by Performance Specification 11 in appendix B of this part, particulate matter and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraph (d)(7)(i) of this section.

(i) For particulate matter, EPA Reference Method 5, 5B, or 17 shall be used.

(ii) For oxygen (or carbon dioxide), EPA reference Method 3, 3A, or 3B, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part. Relative Response Audits must be performed annually and Response Correlation Audits must be performed every 3 years.

(13) When particulate matter emissions data are not obtained because of continuous emission monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours on a 30-day rolling average.

#### **§ 60.46c Emission monitoring for sulfur dioxide**

(a) Except as provided in paragraphs (d) and (e) of this section, the owner or operator of an affected facility subject to the SO<sub>2</sub> emission limits under § 60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO<sub>2</sub> concentrations and either oxygen or carbon dioxide concentrations at the outlet of the SO<sub>2</sub> control device (or the outlet of the steam generating unit if no SO<sub>2</sub> control device is used), and shall record

the output of the system. The owner or operator of an affected facility subject to the percent reduction requirements under § 60.42c shall measure SO<sub>2</sub> concentrations and either oxygen or carbon dioxide concentrations at both the inlet and outlet of the SO<sub>2</sub> control device.

(b) The 1-hour average SO<sub>2</sub> emission rates measured by a CEMS shall be expressed in ng/J or lb/million Btu heat input and shall be used to calculate the average emission rates under § 60.42c. Each 1-hour average SO<sub>2</sub> emission rate must be based on at least 30 minutes of operation and include at least 2 data points representing two 15-minute periods. Hourly SO<sub>2</sub> emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.

(c) The procedures under § 60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 (appendix B).

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 (appendix F).

(3) For affected facilities subject to the percent reduction requirements under § 60.42c, the span value of the SO<sub>2</sub> CEMS at the inlet to the SO<sub>2</sub> control device shall be 125 percent of the maximum estimated hourly potential SO<sub>2</sub> emission rate of the fuel combusted, and the span value of the SO<sub>2</sub> CEMS at the outlet from the SO<sub>2</sub> control device shall be 50 percent of the maximum estimated hourly potential SO<sub>2</sub> emission rate of the fuel combusted.

(4) For affected facilities that are not subject to the percent reduction requirements of § 60.42c, the span value of the SO<sub>2</sub> CEMS at the outlet from the SO<sub>2</sub> control device (or outlet of the steam generating unit if no SO<sub>2</sub> control device is used) shall be 125 percent of the maximum estimated hourly potential SO<sub>2</sub> emission rate of the fuel combusted.

(d) As an alternative to operating a CEMS at the inlet to the SO<sub>2</sub> control device (or outlet of the steam generating unit if no SO<sub>2</sub> control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO<sub>2</sub> emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO<sub>2</sub> control device (or outlet of the steam generating unit if no SO<sub>2</sub> control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO<sub>2</sub> emission rate by using Method 6B. Fuel sampling shall be conducted pursuant to either paragraph (d)(1) or (d)(2) of this section. Method 6B shall be conducted pursuant to paragraph (d)(3) of this section.

(1) For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for sulfur content and heat content according to Method 19. Method 19 provides procedures for converting these measurements into the format to be used in calculating the average SO<sub>2</sub> input rate.

(2) As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less.

(3) Method 6B may be used in lieu of CEMS to measure SO<sub>2</sub> at the inlet or outlet of the SO<sub>2</sub> control system. An initial stratification test is required to verify the adequacy of the Method 6B sampling location. The stratification test shall consist of three paired runs of a suitable SO<sub>2</sub> and carbon dioxide measurement

train operated at the candidate location and a second similar train operated according to the procedures in § 3.2 and the applicable procedures in section 7 of Performance Specification 2 (appendix B). Method 6B, Method 6A, or a combination of Methods 6 and 3 or Methods 6C and 3A are suitable measurement techniques. If Method 6B is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent (0.10).

(e) The monitoring requirements of paragraphs (a) and (d) of this section shall not apply to affected facilities subject to § 60.42c(h)(1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO<sub>2</sub> standards based on fuel supplier certification, as described under § 60.48c(f) (1), (2), or (3), as applicable.

(f) The owner or operator of an affected facility operating a CEMS pursuant to paragraph (a) of this section, or conducting as-fired fuel sampling pursuant to paragraph (d)(1) of this section, shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive steam generating unit operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator.

#### **§ 60.47c Emission monitoring for particulate matter.**

(a) The owner or operator of an affected facility combusting coal, oil, gas, or wood that is subject to the opacity standards under Sec. 60.43c shall install, calibrate, maintain, and operate a COMS for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system, except as specified in paragraphs (c) and (d) of this section.

(b) All COMS for measuring opacity shall be operated in accordance with the applicable procedures under Performance Specification 1 (appendix B). The span value of the opacity COMS shall be between 60 and 80 percent.

(c) Units that burn only oil that contains no more than 0.5 weight percent sulfur or liquid or gaseous fuels with potential sulfur dioxide emission rates of 230 ng/J (0.54 lb/MMBtu) heat input or less are not required to conduct PM emissions monitoring if they maintain fuel supplier certifications of the sulfur content of the fuels burned.

(d) Owners or operators complying with the PM emission limit by using a PM CEMS monitor instead of monitoring opacity must calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for PM emissions discharged to the atmosphere as specified in Sec. 60.45c(d). The continuous monitoring systems specified in paragraph Sec. 60.45c(d) shall be operated and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

#### **§ 60.48c Reporting and recordkeeping requirements.**

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup, as provided by § 60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(2) If applicable, a copy of any Federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under § 60.42c, or § 60.43c.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(4) Notification if an emerging technology will be used for controlling SO<sub>2</sub> emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of § 60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO<sub>2</sub> emission limits of § 60.42c, or the PM or opacity limits of § 60.43c, shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS and/or COMS using the applicable performance specifications in appendix B.

(c) The owner or operator of each coal-fired, residual oil-fired, or wood-fired affected facility subject to the opacity limits under § 60.43c(c) shall submit excess emission reports for any excess emissions reports for any excess emissions from the affected facility which occur during the reporting period.

(d) The owner or operator of each affected facility subject to the SO<sub>2</sub> emission limits, fuel oil sulfur limits, or percent reduction requirements under § 60.42c shall submit reports to the Administrator.

(e) The owner or operator of each affected facility subject to the SO<sub>2</sub> emission limits, fuel oil sulfur limits, or percent reduction requirements under § 60.43c shall keep records and submit reports as required under paragraph (d) of this section, including the following information, as applicable.

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average SO<sub>2</sub> emission rate (ng/J or lb/million Btu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent of potential SO<sub>2</sub> emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

(4) Identification of any steam generating unit operating days for which SO<sub>2</sub> or diluent (oxygen or carbon dioxide) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken.

(5) Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(6) Identification of the F factor used in calculations, method of determination, and type of fuel combusted.

(7) Identification of whether averages have been obtained based on CEMS rather than manual sampling methods.

(8) If a CEMS is used, identification of any times when the pollutant concentration exceeded the full span of the CEMS.

(9) If a CEMS is used, description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specifications 2 or 3 (appendix B).

(10) If a CEMS is used, results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.



(11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), or (3) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

(f) Fuel supplier certification shall include the following information:

(1) For distillate oil:

(i) The name of the oil supplier; and

(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in § 60.41c.

(2) For residual oil:

(i) The name of the oil supplier;

(ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;

(iii) The sulfur content of the oil from which the shipment came (or of the shipment itself);

and

(iv) The method used to determine the sulfur content of the oil.

(3) For coal:

(i) The name of the coal supplier;

(ii) The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the affected facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The certification shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);

(iii) The results of the analysis of the coal from which the shipment came (or of the shipment itself) including the sulfur content, moisture content, ash content, and heat content; and

(iv) The methods used to determine the properties of the coal.

(g) The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day. The owner or operator of an affected facility that only burns very low sulfur fuel oil or other liquid or gaseous fuels with potential sulfur dioxide emissions rate of 140 ng/J (0.32 lb/MMBtu) heat input or less shall record and maintain records of the fuels combusted during each calendar month.

(h) The owner or operator of each affected facility subject to a Federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under § 60.42c or § 60.43c shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

(j) The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30<sup>th</sup> day following the end of each reporting period.

[Last Updated 10/15/03]

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**Subpart Kb — Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984**

**§ 60.110b Applicability and designation of affected facility.**

(a) Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters ( $\text{m}^3$ ) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.

(b) This subpart does not apply to storage vessels with a capacity greater than or equal to 151  $\text{m}^3$  storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75  $\text{m}^3$  but less than 151  $\text{m}^3$  storing a liquid with a maximum true vapor pressure less than 15.0 kPa.

(c) [Reserved]

(d) This subpart does not apply to the following:

- (1) Vessels at coke oven by-product plants.
- (2) Pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere.
- (3) Vessels permanently attached to mobile vehicles such as trucks, rail-cars, barges, or ships.
- (4) Vessels with a design capacity less than or equal to 1,589.874  $\text{m}^3$  used for petroleum or condensate stored, processed, or treated prior to custody transfer.
- (5) Vessels located at bulk gasoline plants.
- (6) Storage vessels located at gasoline service stations.
- (7) Vessels used to store beverage alcohol.
- (8) Vessels subject to subpart GGGG of 40 CFR part 63.

(e) *Alternative means of compliance -- (1) Option to comply with part 65.* Owners or operators may choose to comply with 40 CFR part 65, subpart C, to satisfy the requirements of §§ 60.112b through 60.117b for storage vessels that are subject to this subpart that meet the specifications in paragraphs (e)(1)(i) and (ii) of this section. When choosing to comply with 40 CFR part 65, subpart C, the monitoring requirements of § 60.116b(c), (e), (f)(1), and (g) still apply. Other provisions applying to owners or operators who choose to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(i) A storage vessel with a design capacity greater than or equal to 151  $\text{m}^3$  containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa; or

(ii) A storage vessel with a design capacity greater than 75  $\text{m}^3$  but less than 151  $\text{m}^3$  containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa.

(2) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart C, must also comply with §§ 60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for those storage vessels. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(2) do not apply to owners or operators of storage vessels complying with 40 CFR part 65, subpart C, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart C, must comply with 40 CFR part 65, subpart A.

(3) *Internal floating roof report*. If an owner or operator installs an internal floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.43. This report shall be an attachment to the notification required by 40 CFR 65.5(b).

(4) *External floating roof report*. If an owner or operator installs an external floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.44. This report shall be an attachment to the notification required by 40 CFR 65.5(b).

## **§ 60.111b Definitions.**

Terms used in this subpart are defined in the Act, in subpart A of this part, or in this subpart as follows:

*Bulk gasoline plant* means any gasoline distribution facility that has a gasoline throughput less than or equal to 75,700 liters per day. Gasoline throughput shall be the maximum calculated design throughput as may be limited by compliance with an enforceable condition under Federal requirement or Federal, State or local law, and discoverable by the Administrator and any other person.

*Condensate* means hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature or pressure, or both, and remains liquid at standard conditions.

*Custody transfer* means the transfer of produced petroleum and/or condensate, after processing and/or treatment in the producing operations, from storage vessels or automatic transfer facilities to pipelines or any other forms of transportation.

*Fill* means the introduction of VOL into a storage vessel but not necessarily to complete capacity.

*Gasoline service station* means any site where gasoline is dispensed to motor vehicle fuel tanks from stationary storage tanks.

*Maximum true vapor pressure* means the equilibrium partial pressure exerted by the volatile organic compounds (as defined in 40 CFR 51.100) in the stored VOL at the temperature equal to the highest calendar-month average of the VOL storage temperature for VOL's stored above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for VOL's stored at the ambient temperature, as determined:

- (1) In accordance with methods de-scribed in American Petroleum institute Bulletin 2517, Evaporation Loss From External Floating Roof Tanks, (incorporated by reference—see § 60.17); or
- (2) As obtained from standard reference texts; or
- (3) As determined by ASTM Method D2879–83, 96, or 97 (incorporated by reference— see § 60.17);
- (4) Any other method approved by the Administrator.

*Reid vapor pressure* means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquified petroleum gases, as determined by ASTM D323–82 or 94 (incorporated by reference—see § 60.17).

*Petroleum* means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

*Petroleum liquids* means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery.

*Process tank* means a tank that is used within a process (including a solvent or raw material recovery process) to collect material discharged from a feedstock storage vessel or equipment within the process before the material is transferred to other equipment within the process, to a product or by-product storage vessel, or to a vessel used to store recovered solvent or raw material. In many process tanks, unit operations such as reactions and blending are conducted. Other process tanks, such as surge control vessels and bottoms receivers, however, may not involve unit operations.

*Storage vessel* means each tank, reservoir, or container used for the storage of volatile organic liquids but does not include:

- (1) Frames, housing, auxiliary supports, or other components that are not directly involved in the containment of liquids or vapors;
- (2) Subsurface caverns or porous rock reservoirs; or
- (3) Process tanks.

*Volatile organic liquid (VOL)* means any organic liquid which can emit volatile organic compounds (as defined in 40 CFR 51.100) into the atmosphere.

*Waste* means any liquid resulting from industrial, commercial, mining or agricultural operations, or from community activities that is discarded or is being accumulated, stored, or physically, chemically, or biologically treated prior to being discarded or recycled.

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989]

#### **§ 60.112b Standard for volatile organic compounds (VOC).**

(a) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m<sup>3</sup> containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m<sup>3</sup> but less than 151 m<sup>3</sup> containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following:

(1) A fixed roof in combination with an internal floating roof meeting the following specifications:

(i) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.

(ii) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:

(A) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

(B) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.

(C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

(iii) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(iv) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

(v) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

(vi) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

(vii) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

(viii) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(2) An external floating roof. An external floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof must meet the following specifications:

(i) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be either a mechanical shoe seal or a liquid-mounted seal. Except as provided in § 60.113b(b)(4), the seal shall completely cover the annular space between the edge of the floating roof and tank wall.

(B) The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in § 60.113b(b)(4).

(ii) Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof legs supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(iii) The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.

(3) A closed vent system and control device meeting the following specifications:

(i) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in part 60, subpart VV, § 60.485(b).

(ii) The control device shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements (§ 60.18) of the General Provisions.

(4) A system equivalent to those described in paragraphs (a)(1), (a)(2), or (a)(3) of this section as provided in § 60.114b of this subpart.

(b) The owner or operator of each storage vessel with a design capacity greater than or equal to 75 m<sup>3</sup> which contains a VOL that, as stored, has a maximum true vapor pressure greater than or equal to 76.6 kPa shall equip each storage vessel with one of the following:

- (1) A closed vent system and control device as specified in § 60.112b(a)(3).
- (2) A system equivalent to that described in paragraph (b)(1) as provided in § 60.114b of this subpart.

(c) *Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia.* This paragraph applies only to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia (“site”).

(1) For any storage vessel that otherwise would be subject to the control technology requirements of paragraphs (a) or (b) of this section, the site shall have the option of either complying directly with the requirements of this subpart, or reducing the site-wide total criteria pollutant emissions cap (total emissions cap) in accordance with the procedures set forth in a permit issued pursuant to 40 CFR 52.2454. If the site chooses the option of reducing the total emissions cap in accordance with the procedures set forth in such permit, the requirements of such permit shall apply in lieu of the otherwise applicable requirements of this subpart for such storage vessel.

(2) For any storage vessel at the site not subject to the requirements of 40 CFR 60.112b (a) or (b), the requirements of 40 CFR 60.116b (b) and (c) and the General Provisions (subpart A of this part) shall not apply.

[52 FR 11429, Apr. 8, 1987, as amended at 62 FR 52641, Oct. 8, 1997]

#### **§ 60.113b Testing and procedures.**

The owner or operator of each storage vessel as specified in § 60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of § 60.112b.

(a) After installing the control equipment required to meet § 60.112b(a)(1) (permanently affixed roof and internal floating roof), each owner or operator shall:

(1) Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.

(2) For Vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in § 60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(3) For vessels equipped with a double-seal system as specified in § 60.112b(a)(1)(ii)(B):

(i) Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or

(ii) Visually inspect the vessel as specified in paragraph (a)(2) of this section.

(4) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and

degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in paragraphs (a)(2) and (a)(3)(ii) of this section and at intervals no greater than 5 years in the case of vessels specified in paragraph (a)(3)(i) of this section.

(5) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs (a)(1) and (a)(4) of this section to afford the Administrator the opportunity to have an observer present. If the inspection required by paragraph (a)(4) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(b) After installing the control equipment required to meet § 60.112b(a)(2) (external floating roof), the owner or operator shall:

(1) Determine the gap areas and maximum gap widths, between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel according to the following frequency.

(i) Measurements of gaps between the tank wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with VOL and at least once every 5 years thereafter.

(ii) Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with VOL and at least once per year thereafter.

(iii) If any source ceases to store VOL for a period of 1 year or more, subsequent introduction of VOL into the vessel shall be considered an initial fill for the purposes of paragraphs (b)(1)(i) and (b)(1)(ii) of this section.

(2) Determine gap widths and areas in the primary and secondary seals individually by the following procedures:

(i) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports.

(ii) Measure seal gaps around the entire circumference of the tank in each place where a 0.32-cm diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the storage vessel and measure the circumferential distance of each such location.

(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(3) Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the respective standards in paragraph (b)(4) of this section.

(4) Make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in (b)(4) (i) and (ii) of this section:

(i) The accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed  $212 \text{ Cm}^2$  per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm.

(A) One end of the mechanical shoe is to extend into the stored liquid, and the other end is to extend a minimum vertical distance of 61 cm above the stored liquid surface.

(B) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.

(ii) The secondary seal is to meet the following requirements:

(A) The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the tank wall except as provided in paragraph (b)(2)(iii) of this section.

(B) The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm<sup>2</sup> per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm.

(C) There are to be no holes, tears, or other openings in the seal or seal fabric.

(iii) If a failure that is detected during inspections required in paragraph (b)(1) of § 60.113b(b) cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in § 60.115b(b)(4). Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(5) Notify the Administrator 30 days in advance of any gap measurements required by paragraph (b)(1) of this section to afford the Administrator the opportunity to have an observer present.

(6) Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.

(i) If the external floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.

(ii) For all the inspections required by paragraph (b)(6) of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph (b)(6) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(c) The owner or operator of each source that is equipped with a closed vent system and control device as required in § 60.112b (a)(3) or (b)(2) (other than a flare) is exempt from § 60.8 of the General Provisions and shall meet the following requirements.

(1) Submit for approval by the Administrator as an attachment to the notification required by § 60.7(a)(1) or, if the facility is exempt from § 60.7(a)(1), as an attachment to the notification required by § 60.7(a)(2), an operating plan containing the information listed below.

(i) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases, or liquids other than fuels from sources that are not designated sources under this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids received by the closed vent capture system and control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 °C is used to meet the 95 percent requirement, documentation that those conditions will exist is sufficient to meet the requirements of this paragraph.



(ii) A description of the parameter or parameters to be monitored to ensure that the control device will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters).

(2) Operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the Administrator in accordance with paragraph (c)(1) of this section, unless the plan was modified by the Administrator during the review process. In this case, the modified plan applies.

(d) The owner or operator of each source that is equipped with a closed vent system and a flare to meet the requirements in § 60.112b (a)(3) or (b)(2) shall meet the requirements as specified in the general control device requirements, § 60.18 (e) and (f).

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989]

#### **§ 60.114b Alternative means of emission limitation.**

(a) If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in emissions at least equivalent to the reduction in emissions achieved by any requirement in § 60.112b, the Administrator will publish in the FEDERAL REGISTER a notice permitting the use of the alternative means for purposes of compliance with that requirement.

(b) Any notice under paragraph (a) of this section will be published only after notice and an opportunity for a hearing.

(c) Any person seeking permission under this section shall submit to the Administrator a written application including:

(1) An actual emissions test that uses a full-sized or scale-model storage vessel that accurately collects and measures all VOC emissions from a given control device and that accurately simulates wind and accounts for other emission variables such as temperature and barometric pressure.

(2) An engineering evaluation that the Administrator determines is an accurate method of determining equivalence.

(d) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same emissions reduction as specified in § 60.112b.

#### **§ 60.115b Reporting and recordkeeping requirements.**

The owner or operator of each storage vessel as specified in § 60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of § 60.112b. The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment.

(a) After installing control equipment in accordance with § 60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(1) and § 60.113b(a)(1). This report shall be an attachment to the notification required by § 60.7(a)(3).

(2) Keep a record of each inspection performed as required by § 60.113b (a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

(3) If any of the conditions described in § 60.113b(a)(2) are detected during the annual visual inspection required by § 60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

(4) After each inspection required by § 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in § 60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of § 61.112b(a)(1) or § 60.113b(a)(3) and list each repair made.

(b) After installing control equipment in accordance with § 61.112b(a)(2) (external floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(2) and § 60.113b(b)(2), (b)(3), and (b)(4). This report shall be an attachment to the notification required by § 60.7(a)(3).

(2) Within 60 days of performing the seal gap measurements required by § 60.113b(b)(1), furnish the Administrator with a report that contains:

- (i) The date of measurement.
- (ii) The raw data obtained in the measurement.
- (iii) The calculations described in § 60.113b (b)(2) and (b)(3).

(3) Keep a record of each gap measurement performed as required by § 60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain:

- (i) The date of measurement.
- (ii) The raw data obtained in the measurement.
- (iii) The calculations described in § 60.113b (b)(2) and (b)(3).

(4) After each seal gap measurement that detects gaps exceeding the limitations specified by § 60.113b(b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair.

(c) After installing control equipment in accordance with § 60.112b (a)(3) or (b)(1) (closed vent system and control device other than a flare), the owner or operator shall keep the following records.

- (1) A copy of the operating plan.
- (2) A record of the measured values of the parameters monitored in accordance with § 60.113b(c)(2).

(d) After installing a closed vent system and flare to comply with § 60.112b, the owner or operator shall meet the following requirements.

(1) A report containing the measurements required by § 60.18(f) (1), (2), (3), (4), (5), and (6) shall be furnished to the Administrator as required by § 60.8 of the General Provisions. This report shall be submitted within 6 months of the initial start-up date.

(2) Records shall be kept of all periods of operation during which the flare pilot flame is absent.

(3) Semiannual reports of all periods recorded under § 60.115b(d)(2) in which the pilot flame was absent shall be furnished to the Administrator.

#### **§ 60.116b Monitoring of operations.**

(a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.

(b) The owner or operator of each storage vessel as specified in § 60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.

(c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m<sup>3</sup> but less than 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.

(d) Except as provided in paragraph (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m<sup>3</sup> but less than 151 m<sup>3</sup> storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range.

(e) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.

(1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

(2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:

(i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see § 60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

(3) For other liquids, the vapor pressure:

(i) May be obtained from standard reference texts, or

(ii) Determined by ASTM Method D2879–83, 96, or 97 (incorporated by reference—see § 60.17); or

(iii) Measured by an appropriate method approved by the Administrator; or

(iv) Calculated by an appropriate method approved by the Administrator.

(f) The owner or operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements.

(1) Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in paragraph (e) of this section.

(2) For vessels in which the vapor pressure of the anticipated liquid composition is above the cutoff for monitoring but below the cutoff for controls as defined in §60.112b(a), an initial physical test of the vapor pressure is required; and a physical test at least once every 6 months thereafter is required as determined by the following methods:

(i) ASTM Method D2879–83, 96, or 97 (incorporated by reference—see § 60.17); or

(ii) ASTM Method D323–82 or 94 (incorporated by reference—see §60.17); or

(iii) As measured by an appropriate method as approved by the Administrator.

(g) The owner or operator of each vessel equipped with a closed vent system and control device meeting the specifications of § 60.112b or with emissions reduction equipment as specified in 40 CFR 65.5(b)(4), (b)(5), (b)(6), or (c) is exempt from the requirements of paragraphs (c) and (d) of this section.

**§ 60.117b Delegation of authority.**

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: §§ 60.111b(f)(4), 60.114b, 60.116b(e)(3)(iii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii).

[52 FR 11429, Apr. 8, 1987, as amended at 52 FR 22780, June 16, 1987]